

# COLLEMBOLA OF MACQUARIE ISLAND

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*Abstract.* All known collections of Collembola from Macquarie Island are recorded, from 1901 up to the 1981/82 season. Twenty-three species are now listed for Macquarie I (including Bishop I). Ten species are recorded as before, except *Polykatianna gressitti* is a new combination. Five species names supercede previous misidentifications, *Friesea tilbrooki* (recorded Greenslade 1986) for *Subantarctica* sp., *Tullbergia templei* (recorded Greenslade 1986) for *T. mixta* (part) and *T. mediantarctica*, *Isotoma* (*Parisotoma*) *insularis* for *Isotoma octooculata*, *Isotoma* (*Sorensia*) *punctata* for *Sorensia subflava*, *Isotoma* (*Desoria*) *tigrina* for *Isotoma klovstadi* (the last three are new records here). Specimens of eight other species have been discovered, *Hypogastrura* (*Ceratophysella*) *denticulata* (recorded Greenslade & Wise 1984), and seven new records here, *Isotoma* (*Pseudosorensia*) *atlantica*, *Cryptopygus dubius*, *C. caecus*, *C. lawrencei*, *C. tricusps*, *Lepidosira terraereginae*, *Megalothorax* sp.

*Friesea tilbrooki* is also recorded from Bouvetøya in the south Atlantic Ocean.

The first record of Collembola from Macquarie Island was made by G.H. Carpenter (1909) when he recorded *Achorutes viaticus* Tullberg from specimens collected there in November 1901. The British National Antarctic Expedition 1901-04 visited the island on 22 November 1901 and a large party spent several hours ashore. This party included the biologist T.V. Hodgson who later was to collect in Antarctica. Carpenter (1908) described the Antarctic species (as *Gomphiocephalus hodgsoni*) so it seems likely that the Macquarie Island specimens he had received from the British Museum (Carpenter 1909:377) were from collections of the same expedition. In his report on the terrestrial Arthropoda of Macquarie Island, K.C. Watson (1967:3) referred to a visit by "M.A. Hamilton", who collected some insects there in 1894, and stated "Hamilton also collected large numbers of collembola which were determined by Carpenter (1909)." However, as the specimens recorded by Carpenter (1909) are dated November 1901 Watson's reference must be discounted. A. Hamilton, himself, recorded (1895) the collection of spiders and flies, but not Collembola, and most of his collections were lost (loc. cit., Chilton 1909).

Later, insects from the Australasian Antarctic Expedition 1911-1914 were collected on Macquarie Island by H. Hamilton (son of A. Hamilton) between May 1912 and November 1913. These were recorded by R.J. Tillyard (1920) who recognised three Collembola species (*Achorutes viaticus* Tullberg, *Entomobrya mawsoni* Tillyard, 1920, *Arrhopalites davidi* Tillyard, 1920).

H. Womersley (1937) recorded the Collembola collected by T.H. Johnston in December 1930 during the British Australian New Zealand Antarctic Research Expedition 1929-1931.

Since 1948 there has been continual occupation of a station on Macquarie Island by members of the Australian National Antarctic Research Expeditions who made further collections. Law & Burstall (1956) mentioned that Collembola were abundant. K.C. Watson (1967) gave the first full account of these collections including Collembola determined by J.T. Salmon. While it was not mentioned in the text or specimen data, Watson's report also apparently included information on Collembola from at least some of the J.H. Calaby collection, made in December 1960, as well as from Watson's own collection made from January to December 1961.

During a period in which the Bernice P. Bishop Museum (Honolulu) Entomology Department was active in the antarctic-subantarctic area (1959-65), two brief visits were made to Macquarie Island. A few of the many Macquarie Island Collembola collected by J.L. Gressitt in December 1960 were recorded by Salmon (1964b, 1974). J. Shoup collected soil and low plant samples on Macquarie Island in February 1965, from which Collembola were later extracted.

Wise (1967) published records of two Macquarie Island species based on specimens in the British Australian New Zealand Antarctic Research Expedition collection (*Isotoma* sp. not *klovstadi*), the Gressitt and the Shoup collections (*Cryptopygus antarcticus*). Records of two other species from Macquarie Island recorded by Wise (1970a), (*Tullbergia bisetosa* and *Sorensia subflava*) were also based on specimens collected by Shoup.

A record by D.J. Lugg, G.W. Johnstone and B.J. Griffin (1978) of a species on Bishop Island, north of Macquarie Island, was based on a determination by P. Greenslade from specimens collected by G. Copson in 1976.

Greenslade and Wise (1984) gave the first record of *Hypogastrura denticulata* on Macquarie I, based on specimens recorded here.

In a recent paper on Heard I Collembola Greenslade (1986) recorded three species for Macquarie I, those of *Friesea tilbrooki* and *Tullbergia templei* being from specimens recorded in this work.

In addition to the records listed above Macquarie Island Collembola have been referred to by Block (1979), Block and Tilbrook (1975), Brown (1964), Carpenter (1921, 1925), Carpenter and Phillips (1922), Deharveng (1981), Denis (1947), Dreux (1971), Gressitt (1961, 1965a, b, c, 1967), Gressitt and Weber (1959), Pryor (1962), Salmon (1949), Stach (1949), Tilbrook (1970), Tillyard (1925, 1926), Womersley (1939) and have been listed by Enderlein (1930), Gressitt (1964, 1970) and Wise (1964, 1977).

*Macquarie Island Collembola collections*

Collections known to us are listed in Table 1. Material from all collections has been examined by us except for specimens recorded by Carpenter (1909) now in the National Museum of Ireland and here presumed to be from the BNAE collection. Collembola in the AAE collection were first examined by R.J. Tillyard and are now in the Australian Museum, Sydney. The BANZARE collection was first examined by H. Womersley and lodged in the South Australian Museum, Adelaide. The Calaby and Watson collections (ANARE) were both examined by J.T. Salmon although recorded by Watson in his paper on terrestrial arthropods of Macquarie Island, and belong in the Australian National Insect Collection, Canberra, with a duplicate series in the National Museum of New Zealand, Wellington. Collections by Gressitt and by Shoup were made for the Bernice P. Bishop Museum Entomology Department, Honolulu. Originally the Gressitt collection was examined by Salmon and the Shoup collection by Wise. Apparently the Hughes collection was sent to Salmon and belongs in the National Museum of New Zealand, Wellington. The Horning collection was made during the Australian Museum expedition 1977-78 but it appears to contain mostly immatures and no determination records are included here. Of the others (all ANARE), the W.J.M. Vestjens collection is held partly by the National Museum of Victoria, Melbourne and partly the Australian National Insect Collection, Canberra, while collections by Rounsevell, Copson and Cronin were lodged in the South Australian Museum, Adelaide. All these later collections lodged in Australia were first examined by Greenslade.

In this paper initial letters are used for the abbreviations of expedition names and institutions are abbreviated as follows.

- AMNZ — Auckland Institute and Museum, Auckland, New Zealand.
- AMSY — Australian Museum, Sydney, Australia.
- ANIC — Australian National Insect Collection, C.S.I.R.O., Canberra, Australia.
- BPBM — Bernice P. Bishop Museum, Honolulu, Hawaii.
- NMID — National Museum of Ireland, Dublin, Ireland.
- NMNZ — National Museum of New Zealand, Wellington, New Zealand.
- NMVM — National Museum of Victoria, Melbourne, Australia.
- SAMA — South Australian Museum, Adelaide, Australia.

All recorded identifications are of slide-mounted specimens only. In the "Specimens examined" sections, each entry represents a slide mount and the number in parenthesis is the number of specimens on the slide. Other numbers are collection numbers (with the collection data) or institutional or identifiers number (after the specimen number).

Reference specimens of almost all species have been retained in the South Australian Museum and Auckland Museum collections. J.T. Salmon previously retained some specimens in the National Museum of New Zealand collections.

Identifications have been made by comparison with types in nearly all cases and as indicated in the text or with reliably identified material. A reference collection of Kerguelen species determined by L. Deharveng was deposited in the South Australian



Museum for this purpose. Species of *Hypogastrura* were verified by A. Fjellberg and compared with European material.

Table 1. Macquarie Island Collembola collections.

Expedition	Macquarie	Collector	Collembola Collected	Collembola Lodged	Collembola Recorded
British National Antarctic Expedition 1901-1904	22 Nov. 1901	[?T.V. Hodgson]	22 Nov. 1901	NMID	Carpenter, 1909
Australasian Antarctic Expedition 1911-1914	11 Dec. 1911 -5 Dec. 1913	H. Hamilton	May 1912 - Nov. 1913	AMSY	Tillyard, 1920
British Australian New Zealand Antarctic Research Expedition 1929-1931	2-4 Dec. 1930	T.H. Johnston	2-4 Dec. 1930	SAMA	Womersley, 1937 Salmon, 1964b Wise, 1967
Australian National Antarctic Research Expeditions	4 Dec. 1960 -10 Dec. 1960	J.H. Calaby	4-5 Dec. 1960	ANIC	Watson, 1967
Bernice P. Bishop Museum Entomology Department	4 Dec. 1960 -10 Dec. 1960	J.L. Gressitt	4-10 Dec. 1960	BPBM	Salmon, 1964b Wise, 1967 Salmon, 1974
Australian National Antarctic Research Expeditions	4 Dec. 1960 - Dec. 1961	K.C. Watson	24 Jan. 1961 -1 Dec. 1961	ANIC	Watson, 1967 Salmon, 1974
Australian National Antarctic Research Expeditions	Jan. 1962 - Mar. 1962	W. Hughes	14 Jan. 1962 - 10 Mar. 1962	NMNZ	
Australian National Antarctic Research Expeditions	Mar. 1962 - Nov. 1962	W.J.M. Vestjens	23 Mar. 1962 -12 Jun. 1962 4 Apr. 1962 -5 Oct. 1962	NMVM  ANIC	
Bernice P. Bishop Museum Entomology Department	Feb. 1965	J. Shoup	24 Feb. 1965 - 26 Feb. 1965	BPBM	Wise, 1967 Wise, 1970
Australian National Antarctic Research Expeditions	Nov. 1972	D. Rounsevell	Nov. 1972	SAMA	
Australian National Antarctic Research Expeditions	Mar. 1975	D. Rounsevell	11 Mar. 1975	SAMA	
Australian National Antarctic Research Expeditions (Bishop Island)	Feb. 1976	G. Copson	7 Feb. 1976	SAMA	Lugg, Johnstone & Griffin, 1978
Australian National Antarctic Research Expeditions	Nov. 1977 -Oct. 1978	G. Copson	17 Nov. 1977 -19 Oct. 1978	SAMA	
Australian Museum	Nov. 1977 -Jan. 1978	D. Horning	22 Nov. 1977 -17 Jan. 1978	AMSY	
Australian National Antarctic Research Expeditions	Aug. 1980	G. Copson	16 Aug. 1980	SAMA	
Australian National Antarctic Research Expeditions	Dec. 1981 -Jan. 1982	S. Cronin	28 Dec. 1981 -20 Jan. 1982	SAMA	
Australian National Antarctic Research Expeditions	Feb. 1982	S. Cronin and D. Montgomery	3 Feb. 1982	SAMA	



CHECK LIST OF SPECIES

Family HYPOGASTRURIDAE

- Hypogastrura* (*Hypogastrura*) *purpurescens* (Lubbock, 1868)  
*Hypogastrura* (*Hypogastrura*) *viatica* (Tullberg, 1872)  
*Hypogastrura* (*Ceratophysella*) *denticulata* (Bagnall, 1941)

Family NEANURIDAE

- Friesea tilbrooki* Wise, 1970

Family ONYCHIURIDAE

- Tullbergia bisetosa* Börner, 1902  
*Tullbergia templei* Wise, 1967

Family ISOTOMIDAE

- Isotoma* (*Parisotoma*) *insularis* Deharveng, 1981  
*Isotoma* (*Sorensia*) *punctata* Wahlgren, 1906  
*Isotoma* (*Desoria*) *tigrina* Nicolet, 1842  
*Isotoma* (*Pseudosorensia*) *atlantica* (Wise, 1970)  
*Cryptopygus antarcticus antarcticus* Willem, 1901  
*Cryptopygus caecus* Wahlgren, 1906  
*Cryptopygus dubius* Deharveng, 1981  
*Cryptopygus lawrencei* Deharveng, 1981  
*Cryptopygus tricuspis* Enderlein, 1909

Family ENTOMOBRYIDAE

- Lepidobrya mawsoni* (Tillyard, 1920)  
*Lepidocyrtus cyaneus cinereus* Folsom, 1924  
*Lepidosira terraereginae* (Ellis & Bellinger, 1973)

Family SMINTHURIDAE

- Polykatianna davidi* (Tillyard, 1920)  
*Polykatianna gressitti* (Salmon, 1964)  
*Sminthurinus kerguelensis* Salmon, 1964  
*Katianna banzareii* Salmon, 1964

Family NEELIDAE

- Megalothonax* sp.

## KEY TO MACQUARIE ISLAND COLLEMBOLA

1. Body globular ..... 2  
 Body elongate ..... 5
2. Antennae shorter than head diagonal; blind, white..... **Megalothorax** sp.  
 Antennae longer than head diagonal; ocelli and pigment present ..... 3
3. Smaller, black <1mm long; no spines on vertex; antenna IV not annulated; neosminthuroid setae present; five anterior setae on dens, arranged 1---4; female with bifurcate setae supra-anally..... **Sminthurinus kerguelensis**  
 Large >1 mm long;  $\pm$  spines on vertex; antennae IV annulated; neosminthuroid setae absent; more than five anterior setae on dens; female without bifurcate setae supra-anally ..... 4
4. Vertex with six spines and two interocularly; antenna IV distinctly annulated; anterior setae on dens arranged 1---24; 7-8 clavate tenent hairs on each leg; inner lamella of mucro evenly toothed, outer smooth ..... **Katianna banzareii**  
 Vertex without spines, short curved setae only present, antenna IV with suggestion of annulations; anterior setae on dens arranged 1--1124; 3-4 clavate tenent hairs on leg; both lamellae of mucro smooth ..... **Polykatianna (P.davidi, P.gressitti)**
5. Abdomen III smaller than IV; scales present ..... 6  
 Abdomen III equal to IV, scales absent ..... 8
6. White with some darker markings on body; scales elongate, pointed, distributed on dorsal surface of head and abdomen only ..... **Lepidobrya mawsoni**  
 Blue; scales rounded, not pointed, present on legs, furca and antennae, as well as body ..... 7
7. Scales yellow, with clear, dark striations..... **Lepidosira terraereginae**  
 Scales colourless, hyaline, without clear, dark striations ..... **Lepidocyrtus cyaneus**
8. Thorax I setose..... 9  
 Thorax I non-setose..... 14
9. Pseudo-ocelli present; blind, white ..... **Tullbergia** 13  
 Pseudo-ocelli absent; ocelli and pigment present..... 10
10. Anal spines 2; ocelli 8 + 8; postantennal organ present ..... **Hypogastrura** 11  
 Anal spines 7-11 (usually 7-8); ocelli 3 + 3; postantennal organ absent ..... **Friesea tilbrookii**
11. Anal spines large, as long as claw, curved; clavate tenent hairs absent; protrusible sac present between antenna III and IV; mucro with rounded tip, not tapering ..... **Hypogastrura (Ceratophysella) denticulata**  
 Anal spines smaller, less than half length of claw; clavate tenent hairs present; no protrusible sac between antenna III and IV; mucro tapering with pointed tip..... 12
12. Leg 2 with tenent hairs all inserted about the same distance from apex..... **Hypogastrura (Hypogastrura) viatica**  
 Leg 2 with one of the tenent hairs more apical than the other two ..... **Hypogastrura (Hypogastrura) purpurescens**

13. Empodial appendage present and well developed with seta, half length of claw..... **Tullbergia bisetosa**  
Empodial appendage absent, small lobe only present..... **Tullbergia templei**
14. Manubrium with many anterior setae ..... 15  
Manubrium with 1 + 1 anterior setae at most..... 18
15. Ocelli absent or 1 + 1 at most..... 16  
Ocelli present, at least 4 + 4 ..... 17
16. Manubrium with slender setae only; no ciliated setae posteriorly on abdomen..... **Isotoma (Pseudosorensia) atlantica**  
Manubrium distally with 1 + 1 setae with swollen bases; posterior abdomen with long ciliated setae ..... **Isotoma (Sorensia) punctata**
17. Ocelli 4 + 4; pink or pale grey..... **Isotoma (Parisotoma) insularis**  
Ocelli 8 + 8, dark grey ..... **Isotoma (Desoria) tigrina**
18. Ocelli 8 + 8; clavate tenent hairs absent; dens annulated with 12-17 anterior setae and 7 posteriorly ..... **Cryptopygus dubius**  
Ocelli 6 + 6 or fewer, clavate tenent hairs present or absent ..... 19
19. Ocelli 6 + 6; clavate tenent hairs present, dens reduced not annulated; with 5 anterior setae and 4 posterior setae; mucro with two teeth ..... **Cryptopygus antarcticus antarcticus**  
Ocelli 2 + 2 or less; clavate tenent hairs absent, dens annulated or reduced..... 20
20. Ocelli 2 + 2; dens annulated or reduced; mucro with 3 teeth; retinaculum with 1 + 1 setae..... 21  
Ocelli 1 + 1; dens long, annulated, with 9-11 anterior setae and 4 posterior setae; mucro with 5 teeth; retinaculum with 4 + 4 teeth and 1 seta..... **Cryptopygus caecus**
21. Dens annulated with 13 anterior setae and 6 posterior setae ..... **Cryptopygus tricuspis**  
Dens reduced with 4-5 anterior setae and 3 posterior setae ..... **Cryptopygus lawrencei**

### Family HYPOGASTRURIDAE Börner, 1913

#### Genus **Hypogastrura** Bourlet, 1839

#### Subgenus **Hypogastrura**

#### **Hypogastrura (Hypogastrura) purpurescens** (Lubbock, 1868)

*Achorutes purpurescens* Lubbock, 1868, Trans. Linn. Soc. London 26:302.

*Hypogastrura purpurascens*: Womersley, 1937, Rep. B.A.N.Z.A.R.E. (B)4(1):2 (Macquarie I).

*Podurhippus purpurascens*: Salmon, 1949, Cape Exped. Ser.Bull. 4:9 (Macquarie I).

*Specimens examined.* MACQUARIE I. (BANZARE) Station 81, Buckles Bay, 2.XII.1930 (3) *Hypogastrura purpurescens* det. Womersley. Station 81, Buckles Bay, 3.XII.1930, Res.234(1). *Hypogastrura viatica* det. Salmon. (ANARE) Garden Cove, tussock grass, 11.VIII.1962, Vestjens, M/62/In/158 (1). Wireless Hill, between rotting *Stilbocarpa*, 12.VI.1962, Vestjens, M/62/In/159 (1). North Arm, *Sphagnum*, -.XI.1972, Rounsevell 1 (10). North Arm, *Azorella*, -.XI.1972, Rounsevell 6 (12). North Arm, *Stilbocarpa*, -.XI.1972,



Rounsevell 7(6). Isthmus, litter near biology lab, 11.III.1975, Rounsevell (1). Isthmus, *Poa* debris, 17.XI.1977 Copson 2 (1). Isthmus, *Poa foliosa* debris, 17.XI.1977 Copson 10 (1). Isthmus, *Poa foliosa* debris, 17.XI.1977 Copson 10 (1). Isthmus, *Poa foliosa* debris, 17.XI.1977 Copson 10 (2). Isthmus, debris under *Poa foliosa*, 17.XI.1977 Copson 3 (4). Isthmus, debris under *Poa foliosa*, 17.XI.1977 Copson 3 (3). Isthmus, *Poa* debris, 17.XI.1977 Copson 2 (4).

**Distribution.** Cosmopolitan (see Salmon 1964a), including Australia, New Zealand, Campbell I and Macquarie I.

This species name has been spelt incorrectly in many publication records according to Salmon (1964a). *Hypogastrura pseudopurpurascens* Womersley, 1928, which was recorded from Campbell I. by Salmon (1949), is synonymous (Stach 1949).

### **Hypogastrura (Hypogastrura) viatica** (Tullberg, 1872)

*Achorutes viaticus* Tullberg, 1872, Kungl. Svensk. Vet.-Akad. Handl. 10(10):50.

*Achorutes viaticus*: Carpenter, 1909, Subantarctic Islands New Zealand 1:377 (Macquarie I).

*Achorutes viaticus*: Tillyard, 1920, Australas. Ant. Exped. Sci. Rep. (C)5(8):10 (Macquarie I).

*Achorutes viaticus*: Carpenter, 1921, Brit. Ant. ("Terra Nova") Exped. 1910 Nat. Hist. Rep. Zool. 3:263.

*Achorutes viaticus*: Carpenter & Phillips, 1922, Proc. R. Irish Acad. 36B(2):12, 18-19.

*Achorutes viaticus*: Carpenter, 1925, Mem. Proc. Manchester Lit. Phil. Soc. 69:88 (Macquarie I).

*Achorutes viaticus*: Tillyard, 1925, N.Z.J.Sci. Tech. 7(5):301 (Macquarie I).

*Achorutes viaticus*: Tillyard, 1926, Insects Australia New Zealand, 55 (Macquarie I).

*Achorutes viaticus*: Enderlein, 1930, Ges. Naturf. Freund Berlin: 262 (Macquarie I).

*Hypogastrura viatica*: Womersley, 1937, Rep. B.A.N.Z.A.R.E. (B)4(1):1-2.

*Hypogastrura viatica*: Womersley, 1939, Primitive Insects South Australia, 91, 264, 269.

*Neogastrura viatica*: Stach, 1949, Acta Monogr. Mus. Hist. Nat. Cracov:89 (Macquarie I).

*Podurhippus viaticus*: Salmon, 1949, Cape Exped. Ser Bull. 4:9 (Macquarie I).

*Hypogastrura viatica*: Gressitt, 1967, Ant. Res. Ser. 10:14 (Macquarie I).

*Hypogastrura viatica*: Wise, 1967, Ant. Res. Ser. 10:46 (Macquarie I).

*Hypogastrura antarctica*: Watson, 1967, ANARE Sci. Rep. (B)1(99):18 (Macquarie I).

*Hypogastrura viatica*: Gressitt, 1970, Pacific Ins. Monogr. 23:325 (Macquarie I).

*Hypogastrura antarctica*: Gressitt, 1970, Pacific Ins. Monogr. 23:325 (Macquarie I).

**Specimens examined.** MACQUARIE I. (AAE) Collembola common on decaying animal and vegetable matter (6) AAE II K42844. *Achorutes viaticus* det. Tillyard. (BANZARE) Station 81, Hasselborough Bay 2.XII.1930, Coll.1669 (1). Station 81, Hasselborough Bay, bog, 4.XII.1930, Coll.1667 (1). *Hypogastrura antarctica* det. Salmon. Station 81, Hasselborough Bay, bog, 4.XII.1930, Coll.1667 (1). *Hypogastrura antarctica* det. Salmon. Station 81, Hasselborough Bay, Res 70,2-3.XII.1930, (1). *Hypogastrura antarctica* det. Salmon. Station 81, swampy land near Buckles Bay, Res.234-a, 3.XII.1930, (1). *Hypogastrura antarctica* det. Salmon. Station 81, swampy land near Buckles Bay, Res.234-a, 3.XII.1930, (1). *Hypogastrura antarctica* det. Salmon. Station 81, swampy land near Buckles Bay, Res.234-a, 3.XII.1930, (1). *Hypogastrura antarctica* det. Salmon. Station 81, swampy land near Buckles Bay, Res.234-a, 3.XII.1930, (1). *Hypogastrura antarctica* det. Salmon. Station 81, N end of island, vegetation from swampy creek, Res.94-b, 2.XII.1930, (1). *Hypogastrura antarctica* det. Salmon. (ANARE) Green Gorge, 4.XII.1960, Calaby, M/60/In/9a (1). *Hypogastrura antarctica* det. Salmon 5. Garden Cove, 4.XII.1960, Calaby, M/60/In/10a (1). *Hypogastrura antarctica* det. Salmon 7. Green Gorge, 4.XII.1960,

Calaby, M/60/In/9a (1). *Hypogastrura antarctica* det. Salmon 7. Green Gorge, 4.XII.1960, Calaby, M/60/In/9a (1). *Hypogastrura antarctica* det. Salmon 7. Green Gorge, 4.XII.1960, Calaby, M/60/In/9a (1). *Hypogastrura antarctica* det. Salmon. Green Gorge, 4.XII.1960, Calaby, M/60/In/9a (1). *Hypogastrura antarctica* det. Salmon 7. Green Gorge, 4.XII.1960, Calaby, M/60/In/9a (1). *Hypogastrura antarctica* det. Salmon 7. Green Gorge, 4.XII.1960, Calaby, M/60/In/9a (1). *Hypogastrura antarctica* det. Salmon 7. Garden Cove, 4.XII.1960, Calaby, M/60/In/10a (1). *Hypogastrura antarctica* det. Salmon 7. (BPBM ED). 4 m N, *Poa* roots, 5.XII.1960, Gressitt (1). A227. 4 m N, *Poa* roots, 5.XII.1960, Gressitt (1). A227. 4 m N, *Poa* roots, 5.XII.1960, Gressitt (1). A227. NE coast, under kelp, 10.XII.1960, Gressitt (1). A220. NE coast, under kelp, 10.XII.1960, Gressitt (1). A220. NE coast, tussock, behind beach 2 m, 10.XII.1960, Gressitt (2). A136. *Hypogastrura antarctica* det. Salmon. Plateau, NE moss, 5.XII.1960, Gressitt (2). A125. *Hypogastrura antarctica* det. Salmon. NE coast, tussock, behind beach 2 m, 10.XII.1960, Gressitt (2). A138. *Hypogastrura antarctica* det. Salmon. N end, *Poa* roots, 10.XII.1960, Gressitt (2). *Hypogastrura antarctica* det. Salmon. N end, *Poa* roots, 10.XII.1960, Gressitt (2). *Hypogastrura antarctica* det. Salmon. NE coast, tussock, behind beach 2 m, 10.XII.1960, Gressitt (1). A122. *Hypogastrura antarctica* det. Salmon. N end 2m, *Poa* roots, 10.XII.1960, Gressitt (2). A131. *Hypogastrura antarctica* det. Salmon. Base 2 m, tussock, roots, soil, 5.XII.1960, Gressitt (2). A137. *Hypogastrura antarctica* det. Salmon. N end, *Poa* roots, moss, soil, 10.XII.1960, Gressitt (1). *Hypogastrura antarctica* det. Salmon. NE coast, tussock, 2 m behind beach, 10.XII.1960, Gressitt (1). A141. *Hypogastrura antarctica* det. Salmon. NE coast, tussock, behind beach 2 m, 10.XII.1960, Gressitt (2). A138. NE 2 m, *Poa*, 10.XII.1960, Gressitt (2). A124. *Hypogastrura antarctica* det. Salmon. NE 2 m, *Poa*, 10.XII.1960, Gressitt (1). A121. *Hypogastrura antarctica* det. Salmon. N 100 m, *Stilbocarpa*, 5.XII.1960, Gressitt (1). A117. *Hypogastrura antarctica* det. Salmon. NE 2 m, *Poa*, 10.XII.1960, Gressitt (1). A121. *Hypogastrura antarctica* det. Salmon. NE 2 m, *Poa*, 10.XII.1960, Gressitt (1). A121. *Hypogastrura antarctica* det. Salmon. NE 2 m, *Poa*, 10.XII.1960, Gressitt (1). A121. *Hypogastrura antarctica* det. Salmon. NE 2 m, *Poa*, 10.XII.1960, Gressitt (1). A121. *Hypogastrura antarctica* det. Salmon. NE coast, tussock, behind beach 2 m, 10.XII.1960, Gressitt (2). A122. *Hypogastrura antarctica* det. Salmon. NE coast, tussock, behind beach 2 m, 10.XII.1960, Gressitt (1). A122. *Hypogastrura antarctica* det. Salmon. NE 2 m, *Poa*, 10.XII.1960, Gressitt (1). A124. *Hypogastrura antarctica* det. Salmon. NE 2 m, *Poa*, 10.XII.1960, Gressitt (1). A124. *Hypogastrura antarctica* det. Salmon. NE 2 m, *Poa*, 10.XII.1960, Gressitt (2). A124. *Hypogastrura antarctica* det. Salmon. NE 2 m, *Poa*, 10.XII.1960, Gressitt (1). A124. *Hypogastrura antarctica* det. Salmon. NE 2 m, *Poa*, 10.XII.1960, Gressitt (1). A124. *Hypogastrura antarctica* det. Salmon. NE Plateau, moss, 5.XII.1960, Gressitt (1). A125. *Hypogastrura antarctica* det. Salmon. NE Plateau, moss, 5.XII.1960, Gressitt (1). A125. *Hypogastrura antarctica* det. Salmon. NE Plateau, moss, 5.XII.1960, Gressitt (1). A125. *Hypogastrura antarctica* det. Salmon. N end, moss-*Azorella*, 7.XII.1960, Gressitt (1). A134. *Hypogastrura antarctica* det. Salmon. Base 2 m, tussock roots, soil, 5.XII.1960, Gressitt (1). A137. *Hypogastrura antarctica* det. Salmon. Base 2 m, tussock roots, soil, 5.XII.1960, Gressitt (1). A137. *Hypogastrura antarctica* det. Salmon. Base 2 m, tussock roots, soil, 5.XII.1960, Gressitt (1). A137. *Hypogastrura antarctica* det. Salmon. NE coast, tussock, behind beach, 10.XII.1960, Gressitt (1). A138. *Hypogastrura antarctica* det. Salmon. NE coast, tussock, behind beach, 10.XII.1960, Gressitt (1). A138. *Hypogastrura antarctica* det. Salmon. NE coast, tussock, behind beach 2 m, 10.XII.1960, Gressitt (1). A141. *Hypogastrura antarctica* det. Salmon. NE 2 m, *Poa*, 10.XII.1960, Gressitt (1). A124. *Hypogastrura antarctica* det. Salmon. Base 2 m, tussock roots, soil, 5.XII.1960, Gressitt (1). A137. *Hypogastrura antarctica* det. Salmon. NE coast, tussock, behind beach 2 m, 10.XII.1960, Gressitt (1). A138. *Hypogastrura antarctica* det. Salmon. N. Head, *Azorella*, 8.XII.1960, Gressitt (1). A204. *Hypogastrura antarctica* det. Salmon. 4 m N, under stones, 5.XII.1960, Gressitt (1). A209.



*Hypogastrura antarctica* det. Salmon. 4 m N, under stones, 5.XII.1960, Gressitt (1). A209.  
*Hypogastrura antarctica* det. Salmon. 4 m N, under stones, 5.XII.1960, Gressitt (1). A209.  
*Hypogastrura antarctica* det. Salmon. 5 m N, moss, 5.XII.1960, Gressitt (1). A222.  
*Hypogastrura antarctica* det. Salmon. 5 m N, moss, 5.XII.1960, Gressitt (1). A222.  
*Hypogastrura antarctica* det. Salmon. N Head, W coast, *Azorella*, 9.XII.1960, Gressitt (1).  
A224. *Hypogastrura antarctica* det. Salmon. N Head, W coast, *Azorella*, 9.XII.1960, Gressitt (1). A224.  
*Hypogastrura antarctica* det. Salmon. 4 m N, stagnant pool, 5.XII.1960, Gressitt (1). A226.  
*Hypogastrura antarctica* det. Salmon. 4 m N, stagnant pool, 5.XII.1960, Gressitt (1). A226.  
*Hypogastrura antarctica* det. Salmon. 3 m N, carrion, 5.XII.1960, Gressitt (1). A228.  
*Hypogastrura antarctica* det. Salmon. NW coast, *Pleurophyllum*, 10.XII.1960, Gressitt (1). A229.  
*Hypogastrura antarctica* det. Salmon. NW coast, *Pleurophyllum*, 10.XII.1960, Gressitt (1). A229.  
*Hypogastrura antarctica* det. Salmon. 4 m N, moss, 5.XII.1960, Gressitt (1). A233.  
*Hypogastrura antarctica* det. Salmon. N end, *Poa* roots, moss, soil, 10.XII.1960, Gressitt (2).  
*Hypogastrura antarctica* det. Salmon. N end, *Poa* roots, moss, soil, 10.XII.1960, Gressitt (2).  
*Hypogastrura antarctica* det. Salmon. (ANARE) Camp Hill, sheep dung and soil, 19.IV.1961, Watson M/61/Z/72 (1).  
*Hypogastrura antarctica* det. Salmon, 5. Aerial Cove, Gentoo rookery, 23.II.1961, Watson M/61/Z/13 (1).  
*Hypogastrura antarctica* det. Salmon, 5. Nuggets Point, *Stilbocarpa* litter, 2.III.1961, Watson M/61/Z/27 (1).  
*Hypogastrura antarctica* det. Salmon, 5. Hasselborough Bay, mud, rotting kelp, 28.IX.1961, Watson M/61/Z/186 (1).  
*Hypogastrura antarctica* det. Salmon, 5. Hurd Point, under beach rocks, 10.II.1961, Watson M/61/Z/12 (1).  
*Hypogastrura antarctica* det. Salmon, 5. Garden Cove, coastal rock, 20.VI.1961, Watson M/61/Z/155 (1).  
*Hypogastrura antarctica* det. Salmon, 5. Hurd Point, under beach rocks, 10.II.1961, Watson M/61/Z/12 (1).  
*Hypogastrura antarctica* det. Salmon, 5. Nuggets Point, *Stilbocarpa* litter, 13.X.1961, Watson M/61/Z/199 (1).  
*Hypogastrura antarctica* det. Salmon, 5. North Head, *Poa hamiltoni*, 3.III.1961, Watson M/61/Z/33 (1).  
*Hypogastrura antarctica* det. Salmon, 5. Hasselborough Bay, mud, rotting kelp 28.IX.1961, Watson M/61/Z/186 (1).  
*Hypogastrura antarctica* det. Salmon, 9. Campbarn, hay and manure, 7.III.1961, Watson, M/61/Z/114 (1).  
*Hypogastrura antarctica* det. Salmon, 5. Isthmus, on top of water, 18.II.1962, Hughes (1). A234.  
*Hypogastrura antarctica* det. Salmon. Wireless Hill, between rotting *Stilbocarpa*, 12.VI.1962, Vestjens, M/62/In/159(1).  
Isthmus, pond surface near biology lab., -.XI.1972, Rounsevell 5 (many).  
Isthmus, litter near biology lab., 11.III.1975, Rounsevell (1).  
Isthmus, *Poa* debris, 17.XI.1977, Copson 2 (4).  
Isthmus, debris under *Poa foliosa*, 17.XI.1977, Copson 3 (5).  
Bauer Bay 20 m alt., moss and *Callitriche antarctica* in slow running water, 16.VIII.1978, Copson 13 (1).  
Aerial Cove, in brackish water, 16.VIII.1980, Copson (21).  
Aerial Cove, in brackish water, 16.VIII.1980, Copson (24).

**Distribution:** Cosmopolitan (see Salmon 1964a), including Macquarie I and most subantarctic islands.

The species *Hypogastrura antarctica* described by Salmon (1962) was synonymised with *H. viatica* by Wise (1971).

Mr James P. O'Connor, Dublin, has recently confirmed (pers. comm.) that Macquarie I specimens of *Hypogastrura viatica* examined by G.H. Carpenter are dated "Nov. 1901". The source suggested by Watson (1967) is therefore incorrect.

### Subgenus *Ceratophysella* Börner, 1932

#### *Hypogastrura* (*Ceratophysella*) *denticulata* (Bagnall, 1941)

*Achorutes denticulatus* Bagnall, 1941, Ent. Mon. Mag. 77:218.

*Hypogastrura denticulata*: Greenslade & Wise, 1984, Trans. R.Soc. S. Aust. 108(4):204. (Macquarie I).



*Specimens examined.* MACQUARIE I. (ANARE) Isthmus, litter near biology hut, -.XI.1972, Rounsevell 2 (36). North Arm, *Stilbocarpa*, -.XI.1972, Rounsevell 7 (17). Isthmus, litter near biology lab, 11.III.1975, Rounsevell (2). Isthmus, *Poa* debris, 17.XI.1977, Copson 2 (1). Isthmus, *Poa* debris, 17.XI.1977, Copson 2 (4). Isthmus, *Poa foliosa* debris, 17.XI.1977, Copson 10(2). Isthmus, debris under *Poa foliosa*, 17.XI.1977, Copson 3 (12).

*Distribution.* Mainly Northern Hemisphere (see Salmon 1964a), but probably well distributed in the Southern Hemisphere, including Macquarie I and possibly Crozet and Marion Is (Deharveng 1981).

## Family NEANURIDAE *sensu* Massoud, 1967

### Genus *Friesea* Dalla Torre, 1895

#### *Friesea tilbrookii* Wise, 1970

*Friesea tilbrookii* Wise, 1970, Pacific Ins. Monogr. 23:190 (South Georgia).

*Subantarctica* sp. Watson, 1967, ANARE Sci. Rep. (B)1 (99):18 (Macquarie I).

*Friesea viennei* Deharveng, 1981, C.N.F.R.A. 48:46 (Heard I).

*Friesea tilbrookii*: Deharveng, 1981, C.N.F.R.A. 48:49 (South Georgia) [in error for *tilbrookii*].

*Friesea tilbrookii*: Greenslade, 1986, Rec. S. Aust. Mus. 19(7):92 (Macquarie I).

*Specimens examined.* MACQUARIE I. (BPBMED) Base 2 m, tussock roots, soil, 5.XII.1960, Gressitt (1). A137. *Protachorutes* det. Salmon. (ANARE) Garden Cove, coastal rocks, 18.IX.1961, Watson, M/61/Z/179 (1). Garden Cove, coastal rocks, 18.IX.1961, Watson, M/61/Z/155 (1). North Head, *Stilbocarpa* litter, 27.II.1961, Watson, M/61/Z/22 (1). *Subantarctica* det. Salmon. Plateau, *Stilbocarpa* soil and litter, 26.VI.1961, Watson, M/61/Z/106 (1). Mt Elder, Prion nest, 28.II.1961, Watson, M/61/Z/24 (1). Hasselborough Bay, mud, rotting kelp, 28.IX.1961, Watson, M/61/Z/186 (1). Aerial Cove, coast rocks, 23.II.1961, Watson, M/61/Z/16 (1). North Head, Royal Rookery, 3.III.1961, Watson, M/61/Z/32 (1). North Head, Royal Rookery, 3.III.1961, Watson, M/61/Z/32 (1). North Head, Royal Rookery, 3.III.1961, Watson, M/61/Z/32 (1). North Head, Royal Rookery, 3.III.1961, Watson, M/61/Z/32 (1). North Head, Royal Rookery, 3.III.1961, Watson, M/61/Z/32 (1). North Head, Royal Rookery, 3.III.1961, Watson, M/61/Z/32 (1). North Head, Royal Rookery, 3.III.1961, Watson, M/61/Z/32 (1). North Head, Royal Rookery, 3.III.1961, Watson, M/61/Z/32 (1). North Head, Royal Rookery, 3.III.1961, Watson, M/61/Z/32 (1). North Head, coastal rocks, 27.VI.1961, Watson, M/61/Z/110 (1). North Head, coastal rocks, 27.VI.1961, Watson, M/61/Z/110 (1). North Head, coastal rocks, 27.VI.1961, Watson, M/61/Z/110 (1). North Head, Royal Penguin Rookery, 27.II.1961, Watson, M/61/Z/21 (1). Garden Cove, rock hopper nest, 30.IX.1961, Watson, M/61/Z/187 (1). North Head, *Poa hamiltoni*, 27.VI.1961, Watson, M/61/Z/109 (1). Nuggets Point, coastal rocks, 2.III.1961, Watson M/61/Z/29 (1). Catchme Point, coastal rocks, 8.V.1961, Watson, M/61/Z/78 (1). Catchme Point, coastal rocks, 8.V.1961, Watson, M/61/Z/78 (1). Catchme Point, coastal rocks, 8.V.1961, Watson, M/61/Z/78 (1). Catchme Point, coastal rocks, 8.V.1961, Watson, M/61/Z/78 (1). BOUVETØYA Nyrøysa, 3.XII.1978, L. Sømme Sample 9-1 (3). KWBa 1. Nyrøysa, 3.I.1979, L. Sømme Sample 17-2 (7), KWBA 3.

*Distribution.* South Georgia (type locality), Bouvetøya (new record), Heard I, Macquarie I.

Wise (1970a) described the species based on three specimens from South Georgia and Deharveng (1981) described *Friesea viennei* from a single specimen collected on

Heard I. Following the examination of many Macquarie I specimens and a few from Bouvetøya, together with the South Georgia holotype, Greenslade (1986) considered that the specimens from all these islands are conspecific.

## Family ONYCHIURIDAE Börner, 1913

### Subfamily TULLBERGIIINAE Bagnall, 1935

#### Genus *Tullbergia* Lubbock, 1876

#### *Tullbergia bisetosa* Börner, 1902

*Tullbergia bisetosa* Börner, 1902, Zool. Anz. 26(689):128 (Kerguelen).

*Tullbergia bisetosa*: Womersley, 1937, Rep. B.A.N.Z.A.R.E. (B)4(1):2 (Macquarie I).

*Tullbergia bisetosa*: Denis, 1947, Mem. Mus. Hist. Nat. Paris (N.S.) 20:41 (Macquarie I).

*Tullbergia bisetosa*: Salmon, 1949, Cape Exped. Ser. Bull. 4:17 (Macquarie I).

*Tullbergia bisetosa*: Brown, 1964, ANARE Rep. (B)1(73):9 (Macquarie I).

*Tullbergia bisetosa*: Wise, 1967, Ant. Res. Ser. 10:128 (Macquarie I).

*Mesaphorura* sp. Watson, 1967, ANARE Sci. Rep. 1(99):18 (Macquarie I).

*Tullbergia mixta*: Watson, 1967, ANARE Sci. Rep. (B)1(99):18 (Macquarie I) (nec Wahlgren, 1906) (part).

*Tullbergia bisetosa*: Gressitt, 1970, Pacific Ins. Monogr. 23:325 (Macquarie I).

*Tullbergia bisetosa*: Wise, 1970, Pacific Ins. Monogr. 23:184 (Macquarie I).

*Tullbergia bisetosa*: Dreux, 1971, Insecta. Marion & Prince Edward Islands, 341 (Macquarie I).

*Tullbergia bisetosa*: Salmon, 1974, Zool. Publ. Victoria Univ. Wellington No.66:4 (Macquarie I).

*Tullbergia bisetosa*: Greenslade, 1986, Rec. S. Aust. Mus. 19(7):94 (Macquarie I).

*Specimens examined.* MACQUARIE I. (BANZARE) Station 81, 2.XII.1930, Coll.1669 (1).

*Tullbergia bisetosa* det. Womersley. Station 81, 3.XII.1930, Coll.1673 (2). *Tullbergia bisetosa*

det. Womersley. (BPBMED) NE 2 m, soil, 5.XII.1960, Gressitt (1). A143. Base 2 m, tussock,

roots, soil, 5.XII.1960, Gressitt (1). A147. N. end, 7.XII.1960, Gressitt (1). A146. N. end,

7.XII.1960, Gressitt (1). A146. (ANARE) Douglas Bay, herbfield litter, 26.I.1961, Watson,

M/61/Z/10 (1). *Mesaphorura* det. Salmon, 2. Langdon Point, *Stilbocarpa* litter 26.I.1961,

Watson, M/61/Z/11 (1). *Mesaphorura* det. Salmon, 2. First Gully, *Poa foliosa*, 24.II.1961,

Watson M/61/Z/18 (1). *Mesaphorura* det. Salmon, 2. First Gully, *Poa foliosa*, 24.II.1961,

Watson M/61/Z/18 (1). *Mesaphorura* det. Salmon, 2. First Gully, *Poa foliosa* soil, 24.II.1961,

Watson M/61/Z/19 (1). *Mesaphorura* det. Salmon, 2. Camp Hill, *Poa annua* and *foliosa*,

13.VII.1961, Watson, M/61/Z/120 (1). *Mesaphorura* det. Salmon, 2. Plateau, soil and litter of

*Stilbocarpa*, 26.VI.1961, Watson, M/61/Z/106 (1). *Tullbergia mixta* det. Salmon. Plateau

above Bauer, nest material of whiteheaded petrel, 4.IV.1962, Vestjens, M/62/In/15(1).

Plateau above Bauer, nest material of whiteheaded petrel, 4.IV.1962, Vestjens, M/62/In/15(1).

(BPBMED) North Head 15 m, moss, low plants, soil, 26.II.1965, Shoup (1). KWM15. Base of

Mt Power 152 m, soil, 24.II.1965, Shoup (1). KWM19a. Base of Mt Power 152 m, soil,

24.II.1965, Shoup (1). KWM19b. South face North Head, soil, grass roots, 26.II.1965, Shoup

(1). KWM112. South of Island Lake 213 m, soil, gravel, low plants, 24.II.1965, Shoup (1).

KWM117a. South of Island Lake 213 m, soil, gravel, low plants, 24.II.1965, Shoup (1).

KWM117b. Near Scoble Lake 268 m, soil, gravel, 24.II.1965, Shoup (1). KWM1121. Top of

Gadget Gully 183 m, soil, stones, low plants, 24.II.1965, Shoup (1). KWM131a. Top of Gadget

Gully 183 m, soil, stones, low plants, 24.II.1965, Shoup (1). KWM131a. (ANARE) North

Arm, *Sphagnum*, -X1.1972, Rounsevell 1 (1). North Arm, *Azorella*, -X1.1972, Rounsevell 6

(1). Bayer Bay hut 20 m, *Poa foliosa-Stilbocarpa* debris, 19.X.1978, Copson 5 (1).



*Distribution.* Kerguelen (type locality) Marion I, Macquarie I, Heard I, South Georgia, Falkland Is, Tierra del Fuego.

This species was first recorded from Macquarie I by Womersley (1937) who synonymised *T. insularis* Wahlgren, 1906 without explanation. Wise (1970a) and Salmon (1974) confirmed the presence of *T. bisetosa* on Macquarie I from Shoup and Gressitt specimens respectively.

***Tullbergia templei* Wise, 1967**

*Tullbergia templei* Wise, 1967, Pacific Ins. Monogr. 23:210 (Heard I).

*Tullbergia mixta*: Watson 1967, ANARE Sci. Rep. (B)1(99):18 (Macquarie I) (nec Walgren, 1906) (part).

*Tullbergia mixta*: Gressitt, 1970, Pacific Ins. Monogr. 23:324 (Macquarie I).

*Tullbergia mediantartica*: Lugg, Johnstone & Griffin, 1978, Geograph. J. 144(2):284 (Bishop I) (in error for *mediantarctica*).

*Tullbergia* cf. *templei*: Deharveng, 1981, C.N.F.R.A.48:68 (Kerguelen).

*Tullbergia templei*: Greenslade, 1986, Rec. S. Aust. Mus. 19(7):95 (Macquarie I).

A series of 36 specimens from a sample of Bishop I soil were compared and found to vary in number of tubercles in the PAO, development of pseudocelli on abdominal segments I, II and III, and size of sense rods on antenna III. A third of the specimens were asymmetric.

The number of tubercles in the PAO was 20-40 (mean 29) in Bishop I specimens. For samples from Heard I this number was 39-42 and for Kerguelen specimens examined was 32-43, not 50-80 as given by Deharveng (1981). In view of the variation in this character and others, it is considered at present that all the specimens examined belong to one variable species.

*Specimens examined.* MACQUARIE I. (ANARE) Garden Cove, coastal rocks, 18.IX.1961, Watson, M/61/Z/179 (1). *Tullbergia mixta* det. Salmon. Garden Cove, coastal rocks, 18.IX.1961, Watson, M/61/Z/179 (1). Garden Cove, coastal rocks, 18.IX.1961, Watson, M/61/Z/179 (1). Garden Cove, coastal rocks, 18.IX.1961, Watson, M/61/Z/179 (1). Garden Cove, coastal rocks, 18.IX.1961, Watson, M/61/Z/179 (1). Garden Cove, coastal rocks, 18.IX.1961, Watson, M/61/Z/179 (1). Garden Cove, coastal rocks, 20.VI.1961, Watson, M/61/Z/155 (1). *Tullbergia mixta* det. Salmon. Garden Cove, coastal rocks, 20.VI.1961, Watson, M/61/Z/155 (1). Garden Cove, coastal rocks, 20.VI.1961, Watson, M/61/Z/155 (1). North Head cave, in rotting feathers, 6.VI.1962, Vestjens, M/62/In/29 (1). Bishop I 55° 06'S 158° 43'E, ex soil, 7.II.1976, Copson (2). *Tullbergia* cf. *mediantarctica* det. Greenslade. Bishop I 55° 06'S 158° 43'E, ex soil, 7.II.1976, Copson (5). Bishop I 55° 06'S 158° 43'E, ex soil, 7.II.1976, Copson (8). Bishop I 55° 06'S 158° 43'E, ex soil, 7.II.1976, Copson (8). Bishop I 55° 06'S 158° 43'E, ex soil, 7.II.1976, Copson (9).

*Distribution.* Heard I (type locality), Macquarie I including Bishop I (new records), Kerguelen (new record).

Following the description of this species from Heard I by Wise (1970b), Deharveng (1981) recorded similar specimens from Kerguelen. The type specimens have been re-examined and compared with specimens from Macquarie I, Bishop I and Kerguelen Is; all are considered to be conspecific.



## Family ISOTOMIDAE Börner, 1901

Genus *Isotoma* Bourlet, 1839

Deharveng (1981), while reviewing southern hemisphere species based on subantarctic islands faunas, stabilised the classification in the Family Isotomidae by placing several genera as subgenera of *Isotoma*. Deharveng's classification is accepted here and species occurring on Macquarie I are arranged accordingly.

Subgenus *Parisotoma* Bagnall, 1940*Isotoma* (*Parisotoma*) *insularis* Deharveng, 1981

*Isotoma* (*Parisotoma*) *insularis* Deharveng, 1981, C.N.F.R.A. No. 48:86 (Crozet).

*Isotoma octo-oculata*: Womersley, 1937, Rep. B.A.N.Z.A.R.E. (B)4(1):4 (Macquarie I).

*Parisotoma octo-oculata* forma principalis: Salmon, 1949, Cape Exped. Ser. Bull. 4:36 (Macquarie I).

*Parisotoma octo-oculata*: Brown, 1964, ANARE Rep. (B)1(73): 11 (Macquarie I).

*Parisotoma octo-oculata ovata*: Watson, 1967, ANARE Sci. Rep. (B)1(99): 19 (Macquarie I).

*Parisotoma octooculata*: Wise, 1967, Ant. Res. Ser. 10:138,146 (Macquarie I).

*Parisotoma octooculata*: Gressitt, 1967, Ant. Res. Ser. 10:14 (Macquarie I).

*Parisotoma octooculata*: Gressitt, 1970, Pacific Ins. Monogr. 23:325 (Macquarie I).

*Parisotoma octooculata*: Wise, 1970, Pacific Ins. Monogr.23:201 (Macquarie I).

Specimens from Macquarie I were compared with Deharveng's (1981) description of *Isotoma* (*Parisotoma*) *insularis* and found to be similar but differed in having a larger PAO. They were compared with the holotype and paratypes of this species and found to be conspecific.

Examination of the holotype of *I. (P.) insularis* has permitted some corrections to the published descriptions (1981). The following character descriptions require modification: postlabial setae 11, 12 on holotype, not in straight line; tenent hairs a little longer than ordinary setae not shorter; ventral tube with 5 + 5 anterior setae not 10, and 6 or 7 posterobasal setae not 3 or 4, distal setae 2 + 2; manubrium with more than 40 setae ventrally, not more than 30; dens with more setae ventrally than dorsally where there are only 10-12; anterior fungal subcoxa with about 80, not 90, setae and 20-23 setae posteriorly; rami tenaculum with 4-9 setae on the base, rarely 4 (only 1 in 13 specimens examined).

*Specimens examined.* MACQUARIE I. (BANZARE) Station 81, 2.XII.1930, Coll. 1669, (1). *Isotoma octo-oculata* det. Womersley. (BPBMED) N end, *Poa* roots, moss, soil, 10.XII.1960, Gressitt (2). *Sorensia subflava* det. Salmon. N end (NW), 10.XII.1960, Gressitt, (1). A126. N end, 7.XII.1960, Gressitt, (1). A133. Base 2 m, tussock, roots, soil, 5.XII.1960, Gressitt (1). A132. Plateau NE, moss, 5.XII.1960, Gressitt (3). A130. NE 2 m, soil, 5.XII.1960, Gressitt (3). A129. NE 2 m, *Poa*, 10.XII.1960, Gressitt (3). A118. NE coast, tussock, behind beach 2 m, 10.XII.1960, Gressitt (1). A136. NE 2 m, *Poa*, 10.XII.1960, Gressitt (3). A120. N end (NW), 10.XII.1960, Gressitt (3). A126. NW coast, *Pleurophyllum* debris, 10.XII.1960, Gressitt (1). A199. NE 2 m, *Poa*, 10.XII.1960, Gressitt (1). A118. *Parisotoma octo-oculata* det. Salmon. Base 2 m, tussock roots, soil, 5.XII.1960, Gressitt (2). A132. *Parisotoma octo-oculata* det. Salmon. W end (NW), *Pleurophyllum* debris, 19.XII.1960, Gressitt (2). *Parisotoma octo-oculata* det. Salmon. NE base 2 m, *Azorella*, 9.XII.1960, Gressitt (1). A231. *Parisotoma*

*octo-oculata* det. Salmon. NE 2 m, *Poa*, 10.XII.1960, Gressitt (1). A120. *Parisotoma octo-oculata* det. Salmon. NE 2 m, soil, 5.XII.1960, Gressitt (2). A129. *Parisotoma octo-oculata* det. Salmon. N end, moss, *Azorella*, 7.XII.1960, Gressitt (2). A133. *Parisotoma octo-oculata* det. Salmon. NE 2 m, soil, 5.XII.1960, Gressitt (2). A129. *Parisotoma octo-oculata* det. Salmon. (ANARE) North Head, *Poa hamiltoni*, 3.III.1961, Watson, M/61/Z/33, (1). Sub-plateau, *Stilbocarpa* litter, 23.VIII.1961, Watson, M/61/Z/157 (1). First Gully, *Stilbocarpa* litter, 24.II.1961, Watson, M/61/Z/20 (1). Gadget Gully, *Stilbocarpa* litter, 7.III.1961, Watson, M/61/Z/41 (1). *Parisotoma octo-oculata ovata* det. Salmon. Hurd Point, under beach rocks, 10.II.1961, Watson, M/61/Z/12 (1). *Parisotoma octo-oculata ovata* det. Salmon. Wireless Hill, between *Stilbocarpa*, 12.VI.1962, Vestjens, M/62/In/175 (3). (BPB MED) North Head 15m, moss, low plants, soil, 26.II.1965, Shoup (1). KWM12a. *Parisotoma octo-oculata ovata* det. Salmon. North Head 15 m, moss, low plants, soil, 26.II.1965, Shoup (1). KWM12b. *Parisotoma octo-oculata ovata* det. Salmon. North Head 15 m, moss, low plants, soil, 26.II.1965, Shoup (1). KWM16. *Parisotoma octo-oculata ovata* det. Salmon. North of Nuggets Pt, sea level, soil, 25.II.1965, Shoup (1). KWM113. *Parisotoma octo-oculata ovata* det. Salmon. Near Scoble Lake 268 m, soil, gravel, 24.II.1965, Shoup (1). KWM123. *Parisotoma octo-oculata ovata* det. Salmon. Mud, gravel, -.II.1965, Shoup (1). KWM126a. *Parisotoma octo-oculata ovata* det. Salmon. Mud, gravel, -.II.1965, Shoup (1). KWM126b. *Parisotoma octo-oculata ovata* det. Salmon. Soil, low plants, -.II.1965, Shoup (1). KWM128. *Parisotoma octo-oculata ovata* det. Salmon. Soil, low plants, -.II.1965, Shoup (1). KWM128. *Parisotoma octo-oculata ovata* det. Salmon. Soil, low plants, -.II.1965, Shoup (1). KWM128. *Parisotoma octo-oculata ovata* det. Salmon. (ANARE) North Arm, *Sphagnum*, -.XI.1972, Rounsevell 1 (6). Isthmus, litter nr. biology hut -.XI.1972, Rounsevell 2 (2). North Arm, *Stilbocarpa*, -.XI.1972, Rounsevell 2 (2). Isthmus, litter from nr. biology lab, 11.III.1975, Rounsevell (1). Isthmus, debris under *Poa foliosa*, 17.XI.1977, Copson 2 (2). Isthmus, debris under *Poa foliosa*, 17.XI.1977, Copson 3 (3). Isthmus, *Poa foliosa* debris, 5 m, 17.XI.1977, Copson 10 (1). Isthmus, coastal rock, *Colobanthus*, 20.XI.1977, Copson 1 (1). Gentoo Flats 5 m, *Stilbocarpa polaris* debris, 16.VIII.1978, Copson 9 (2). Gentoo Flats 5 m, *Stilbocarpa polaris* debris, 16.VIII.1978, Copson 9 (1). Gentoo Flats 5 m, *Stilbocarpa polaris* debris, 16.VIII.1978, Copson 9 (1). Gentoo Flats 5 m, *Stilbocarpa polaris* debris, 16.VIII.1978, Copson 9 (1). Hasselborough Bay, soil under *Poa foliosa*, 20.I.1982, Cronin (1).

*Distribution.* Crozet Is (type locality), Macquarie I (new record).

In his re-arrangement of *Isotoma* species into subgenera, Deharveng (1981:91) has placed *Isotoma octooculata* Willem, 1902 (previously known as *Parisotoma octooculata*: Salmon, 1949) in the subgenus *Sorensia* and has elevated the subspecies *Isotoma octooculata kerguelensis* Enderlein, 1903 to specific rank as *Isotoma (Sorensia) kerguelensis*. However, we consider that the subspecies *Parisotoma octooculata ovata* Salmon, 1949, of Campbell I, should remain in *Parisotoma* and be elevated to specific rank as *Isotoma (Parisotoma) ovata* (Salmon, 1949).

All previous Macquarie I records of *Parisotoma octooculata* (= *Isotoma octo-oculata*) or *Parisotoma octooculata ovata* are found to be based on specimens of the present species.

#### Subgenus *Sorensia* Salmon, 1949

##### *Isotoma (Sorensia) punctata* Wahlgren, 1906

*Isotoma punctata* Wahlgren, 1906, Wiss. Ergebn. Schwed. Sudpolar-Exped., 1901-1903 5(9):14.  
*Sorensia subflava*: Watson, 1967, ANARE Sci. Rep. (B)1(99): 19 (Macquarie I).



*Sorensia subflava*: Wise, 1970, Pacific Ins. Monogr. 23: 194 (Macquarie I).

*Sorensia subflava*: Gressitt, 1970, Pacific Ins. Monogr. 23: 325 (Macquarie I).

*Specimens examined.* MACQUARIE I. (BPBMED) Base 2 m, tussock, roots, soil, 5.XII.1960, Gressitt (1). A144. Base 2 m, tussock, roots, soil, 5.XII.1960, Gressitt (3). A144. Base 2 m, tussock, roots, soil, 5.XII.1960, Gressitt (2). A144. *Parisotoma octo-oculata* det. Salmon. Base 2 m, tussock, roots, soil, 5.XII.1960, Gressitt (1). A144. *Parisotoma octo-oculata* det. Salmon. N end, moss, *Azorella*, 7.XII.1960, Gressitt (1). A145. *Parisotoma octo-oculata* det. Salmon. N end, moss, *Azorella*, 7.XII.1960, Gressitt (3). A145. N end (NW), *Pleurophyllum* debris, 10.XII.1960, Gressitt (3). A142. N end (NW), *Pleurophyllum* debris, 10.XII.1960, Gressitt (1). A142. *Parisotoma octo-oculata* det. Salmon. N end, W beach, *Azorella*, 10.XII.1960, Gressitt (1). A213. N end, W beach, *Azorella*, 10.XII.1960, Gressitt (1). A213. N end, debris 17.XII.1960, Gressitt (1). A210. (ANARE) Gadget Gully, *Stilbocarpa* litter, 26.I.1961, Watson, M/61/Z/8 (1). *Sorensia subflava* det. Salmon. First Gully, *Poa foliosa* soil, 24.II.1961, Watson, M/61/Z/19 (1). *Sorensia subflava* det. Salmon. Plateau, herbfield soil, 19.I.1961, Watson, M/61/Z/3 (1). (BPBMED) North Head 15 m, moss, low plants, soil, 26.II.1965, Shoup (1). KWM13a. *Sorensia subflava* det. Salmon. North Head 15 m, moss, low plants, soil, 26.II.1965, Shoup (1). KWM13b. *Sorensia subflava* det. Salmon. Base of Mt Power 152 m, soil, 24.II.1965, Shoup (1). KWM18. Base of Mt Power 152 m, soil, 24.II.1965, Shoup (1). KWM18. *Sorensia subflava* det. Salmon. South face North Head, soil, grass roots, 26.II.1965, Shoup (1). KWM110. *Sorensia subflava* det. Salmon. Near Scoble Lake 268 m, soil, gravel, 24.II.1965, Shoup (1). KWM122. *Sorensia subflava* det. Salmon. [No data] (1). *Sorensia subflava* det. Salmon. [No data] (1). *Sorensia subflava* det. Salmon. [No data] (1). *Sorensia subflava* det. Salmon. [No data] (1). *Sorensia subflava* det. Salmon. (ANARE) North Arm, *Sphagnum*, -.XI.1972, Rounsevell 1 (5). Isthmus, litter nr. biology hut, -.XI.1972, Rounsevell 2(1). North Arm, *Azorella*, -.XI.1972, Rounsevell 6(2). North Arm, *Stilbocarpa*, -.XI.1972, Rounsevell 7 (2). Isthmus, litter from near biology lab, 11.III.1975, Rounsevell (4). Isthmus, litter from near biology lab, 11.III.1975, Rounsevell (1). Isthmus, litter from near biology lab, 11.III.1975, Rounsevell (2). Bauer Bay, hut, 20m, *Poa foliosa-Stilbocarpa*, 19.X.1978, Copson 5 (1). Isthmus, debris under *Poa foliosa*, 17.XI.1977, Copson 3 (1). Isthmus, coastal rock, *Colobanthus*, 20.XI.1977, Copson 1 (1).

*Distribution.* Falkland Is, Tierra del Fuego, Marion I, Kerguelen, Crozet Is, Heard I, Macquarie I (new record).

Delamere Deboutteville & Massoud (1966) described *Sorensia dreuxi* from Crozet I. Later (Delamere Deboutteville & Massoud 1968), they transferred *Isotoma punctata* Wahlgren, 1906 to *Sorensia* and accepted the other four species then recorded in the genus, but they suggested that *Sorensia punctata*, *S. subflava*, *S. minuta* and *S. dreuxi* may be synonymous.

Wise (1970a) independently synonymised *Sorensia dreuxi* with *S. subflava* and recorded the latter from South Georgia, Crozet I, Heard I, Campbell I, Auckland Is and Macquarie I (from Shoup specimens).

Deharveng (1981: 82, 91) placed the genus *Sorensia* Salmon, 1949 as a subgenus of *Isotoma* with the type species *Sorensia subflava* Salmon, 1949 of Campbell I. He transferred the species *Isotoma punctata* Wahlgren, 1906 to the same subgenus, as *Isotoma (Sorensia) punctata*, and synonymised *Sorensia dreuxi* DD. & M., 1966 with it but refrained from synonymising *S. subflava*. These two species, *I. (S.) subflava* and *I. (S.) punctata*, are here also considered as being separate and all previous records of the former on Macquarie I are found to be the latter.



Subgenus **Desoria** Nicolet, 1841**Isotoma (Desoria) tigrina** (Nicolet, 1842)

*Desoria tigrina* Nicolet, 1842, Nouv. Mem. Soc. Helvet. Sci. Nat. 6: 59.

*Isotoma klovstadi* Womersley, 1937, Rep. BANZARE (B)4(1): 4 (Macquarie I) (non *Isotoma klovstadi* Carpenter, 1902).

*Isotoma klovstadi*: Gressitt & Weber, 1959, Pacific Ins. 1(4): 446 (Macquarie I).

*Isotoma klovstadi*: Pryor, 1962, Pacific Ins 4(3): 715 (Macquarie I).

*Isotoma klovstadi*: Gressitt, 1964, SCAR Symp. Paris, 1962: 220 (Macquarie I).

*Isotoma klovstadi*: Gressitt, 1965, Biogeography Ecology Land Arthropods Antarctica. In Biogeography Ecology Antarctica, 438, 444-46 (Macquarie I).

*Isotoma klovstadi*: Gressitt, 1965, Terrestrial Animals. In Antarctica, 368 (Macquarie I).

*Isotoma* sp. Wise, 1967, Ant. Res. Ser. 10: 137 (not *Isotoma klovstadi* Carpenter, 1902) (Macquarie I).

*Isotoma* sp.: Watson, 1967, ANARE Sci. Rep. (B)1(99): 18 (Macquarie I).

*Isotoma* sp.: Gressitt, 1970, Pacific Ins. Monogr. 23: 325 (Macquarie I).

*Specimens examined.* MACQUARIE I. (BANZARE) Station 81, Coll. 1669, 2.XII.1930 (1), *Isotoma klovstadi* det. Womersley. *Isotoma* n.sp. not *klovstadi* det. Wise, MI33a. Station 81, Coll. 1673, 3.XII.1930 (1), *Isotoma klovstadi* det. Womersley. *Isotoma* n.sp. not *klovstadi* det. Wise, MI33b. Station 81, Coll. 1673, 3.XII.1930 (1), *Isotoma klovstadi* det. Womersley. *Isotoma* n.sp. not *klovstadi* det. Wise, MI33c. Station 81, Coll. 1673, 3.XII.1930 (1), *Isotoma klovstadi* det. Womersley. *Isotoma* n.sp. not *klovstadi* det. Wise, MI33d. (ANARE) Nuggets Point, *Stilbocarpa* litter, 2.III.1961, Watson, M/61/Z/28 (1). *Isotoma* det. Salmon, 14. First Gully, *Stilbocarpa* litter, 24.II.1961, Watson, M/61/Z/20 (1). Salmon, 14. Gadget Gully, shearwater's burrow, 7.III.1961, Watson, M/61/Z/42 (1). Salmon, 14. Gadget Gully, shearwater's burrow, 7.III.1961, Watson, M/61/Z/42 (1). Salmon, 14. Gadget Gully, *Stilbocarpa*, 7.III.1961, Watson, M/61/Z/43 (1). *Isotomina* det. Salmon, 14. Gadget Gully, *Stilbocarpa* litter, 26.I.1961, Watson, M61/Z/8 (1). Salmon, 14. Nuggets Point, *Stilbocarpa* litter, 15.IX.1961, Watson, M/61/Z/175 (1). Salmon, 14. Nuggets Point, *Stilbocarpa* litter, 13.X.1961, Watson, M/61/Z/199 (1). Salmon, 14. (BPBMED) Mud, gravel, -.II.1965, Shoup (1). *Isotoma* n.sp. not *klovstadi* det. Wise, KWM127a. Mud, gravel, -.II.1965, Shoup (1). *Isotoma* n.sp. not *klovstadi* det. Wise, KWM127b. Mud, gravel, -.II.1965, Shoup (1). *Isotoma* n.sp. not *klovstadi* det. Wise, KWM127d. (ANARE) Gentoo Flats 5 m, *Stilbocarpa polaris* debris, 16.VIII.1978, Copson 9 (1). Gentoo Flats 5 m, *Stilbocarpa polaris* debris, 16.VIII.1978, Copson 9 (1).

*Distribution.* Almost cosmopolitan (including Australia, see Fjellberg 1979), Macquarie I (new record).

Womersley (1937) recorded Macquarie I specimens as the Antarctic *Isotoma klovstadi* Carpenter, 1902 but Wise (1967) considered the same specimens to belong to a different species. These and other specimens have now been determined from Fjellberg (1979), who re-described *Isotoma tigrina* (Nicolet, 1842), and the identification, of BANZARE specimens, has been confirmed by J. Najt. Not all characters are clear in some of the other specimens but they are included here for the time being.

Following the subgeneric arrangement by Deharveng (1981) this species is referred to here as *Isotoma (Desoria) tigrina*.

Fjellberg (1979) noted that the species is one of the most common and widespread

of *Isotoma* and is probably cosmopolitan. The present record is the most southerly known and the first for a subantarctic island.

### Subgenus **Pseudosorensia** Izarra, 1972

Deharveng (1981) placed three species in this subgenus and provided a key. Following the discovery of one of these species on Macquarie I (see below) a modified key is presented here.

#### KEY TO SPECIES OF *ISOTOMA* (*PSEUDOSORENSIA*) (modified from Deharveng 1981)

1. Manubrium with 15 or fewer anterior setae, rami tenaculum with 1-3 setae, ciliated macrochaetae absent, claw without teeth ..... **I.(P.) atlantica** (Wise, 1970)
- Manubrium with more than 20 anterior setae, rami tenaculum with 3-4 setae, ciliated macrochaetae present, claw with or without teeth..... 2
2. Macrochaetae on posterior abdomen ciliated on all sides, claw with one internal tooth ..... **I.(P.) fueguensis** (Izarra, 1972)
- Macrochaetae on posterior abdomen ciliated unilaterally, claw without internal tooth ..... **I.(P.) subcaeca** Deharveng, 1981

***Isotoma* (*Pseudosorensia*) *atlantica*** (Wise, 1970) (Figs. 1-8)  
*Sorensia atlantica* Wise, 1970, Pacific Ins. Monogr. 23: 197 (South Georgia I).

Macquarie I specimens recorded below are identical to the type specimens from South Georgia except that they are slightly smaller and appear to lack ocelli and pigmented eye patches. Following further examination some additions can now be made to the description of the species.

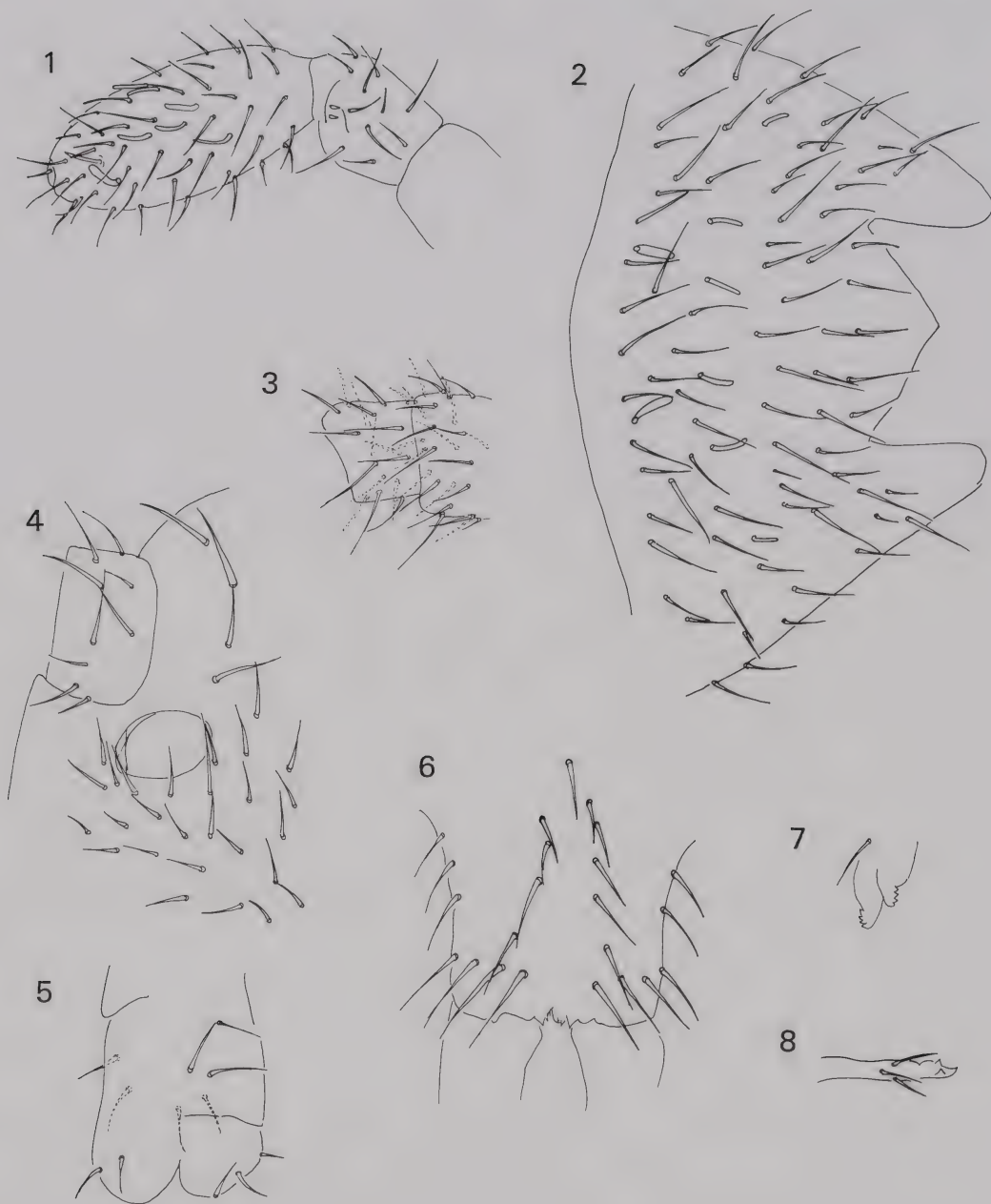
*Size.* 0.4-1.1 mm. *Body clothing.* Macrochaetae not well developed; abdominal setae fairly short and smooth, (no ciliated macrochaetae as stated by Deharveng 1981); sensory setae accp (3 + 3) and as (1 + 1) on abdomen V/VI well developed, short broad and rounded. *Antennae IV.* Antenna IV with 6 large sensory setae and apical organite well developed. *Furca.* No spines on dens or manubrium, mucro with 3 teeth; anteriorly manubrium with 10-15 setae. Rami tenaculum with 1-3 setae.

*Specimens examined.* MACQUARIE I. (ANARE) Plateau, -.XI.1972, Rounsevell 4 (2). Plateau, -.XI.1972, Rounsevell 4 (1).

*Distribution.* South Georgia (type locality), Macquarie I (new record).

Following the description of the genus *Pseudosorensia* by Izarra (1972) it appeared that the present species, of South Georgia, would be congeneric with the type species *Pseudosorensia fueguensis* Izarra, 1972 of Tierra del Fuego. Subsequently, Deharveng (1981) placed *Pseudosorensia* as a subgenus of *Isotoma* and transferred the present species to it.

Until more specimens are available from Macquarie I, the specimens recorded here are referred to *I. (P.) atlantica* but may represent a different species.



Figs.1-8. *Isotoma (Pseudosorensia) atlantica* (Wise 1970). Female from Plateau, Macquarie I. 1. Antenna III and IV, external view. 2. Abdomen V, VI, dorsal view. 3. Antenna I and II dorsal view. 4. Anterior region of head, lateral view. 5. Ventral tube, lateral view. 6. Manubrium, anterior view. 7. Rami tenaculum and seta, anterior view. 8. Mucro, lateral view.



Genus *Cryptopygus* Willem, 1902*Cryptopygus antarcticus antarcticus* Willem, 1901

*Cryptopygus antarcticus* Willem, 1901, Ann. Soc. Ent. Belg. 45: 261.  
*Cryptopygus antarcticus*: Wise, 1967, Ant. Res. Ser.10: 133, 134, 146 (Macquarie I).  
*Cryptopygus antarcticus*: Gressitt, 1967, Ant. Res. Ser. 10: 14 (Macquarie I).  
*Parafolsomia* sp. Watson, 1967, ANARE Sci. Rep. (B)1(99):18 (Macquarie I).  
*Cryptopygus* sp. Watson, 1967, ANARE Sci. Rep. (B) 1(99):18 (Macquarie I).  
*Cryptopygus antarcticus*: Wise, 1970, Pacific Ins. Monogr. 23:192 (Macquarie I).  
*Cryptopygus antarcticus*: Gressitt, 1970, Pacific Ins. Monogr. 23:325 (Macquarie I).  
*Cryptopygus antarcticus*: Tilbrook, 1970, Antarctic Ecology 2: 909 (Macquarie I).  
*Cryptopygus antarcticus*: Block & Tilbrook, 1975, Oikos 26: 16 (Macquarie I).  
*Cryptopygus antarcticus antarcticus*: Deharveng, 1981, C.N.F.R.A. 48:72 (Antarctica, Kerguelen).

*Specimens examined.* MACQUARIE I. (BANZARE) Station 81, Coll. 1669, 2.XII.1930 (1). (BPBMED) NE 2 m, *Poa*, 10.XII.1960, Gressitt (1). A128. NE 2 m, *Poa*, 10.XII.1960, Gressitt (1). A131. NE 2m, *Poa*, 10.XII.1960, Gressitt (1). A119. NE coast, tussock, behind beach 2m, 10.XII.1960, Gressitt (1). A135. NE 2 m, *Poa*, 10.XII.1960, Gressitt (3). A123. *Cryptopygus antarcticus* det. Salmon. NE coast, tussock, behind beach 2 m, 10.XII.1960, Gressitt (2). A127. *Cryptopygus antarcticus* det. Salmon. (ANARE) Aerial Cove, *Colobanthus muscoides*, 24.I.1961, Watson, M/61/Z/6 (1). *Cryptopygus* det. Salmon, 1. North Head, coastal rocks, 27.VI.1961, Watson, M/61/Z/110 (1). Salmon 1. Garden Cove, coastal rocks, 20.VI.1961, Watson, M/61/Z/155 (1). Salmon 1. Gadget Gully, shearwater's burrow, 7.III.1961, Watson, M/61/Z/42 (1). Salmon, 1. Aerial Cove, *Colobanthus*, 24.I.1961, Watson M/61/Z/7 (1). Salmon, 1. Aerial Cove, Gentoo rookery, 23.II.1961, Watson, M/61/Z/13 (1). *Parafolsomia* det. Salmon, 4. (BPBMED) South of Island Lake 213 m, soil, gravel, low plants, 24.II.1965, Shoup (1). KWM116a. South of Island Lake 213 m, soil, gravel, low plants, 24.II.1965, Shoup (1). KWM116b. South of Island Lake 213 m, soil, gravel, low plants, 24.II.1965, Shoup (1). KWM116c. South of Island Lake 213 m, soil, gravel, low plants, 24.II.1965, Shoup (1). KWM116d. South of Island Lake 213 m, soil, gravel, low plants, 24.II.1965, Shoup (1). KWM116c. Near Scoble Lake 268 m, soil, gravel, 24.II.1965, Shoup (1). KWM118. Top of Gadget Gully 183 m, soil, stones, low plants, 24.II.1965, Shoup (1). KWM129. Top of Gadget Gully 183 m, soil, stones, low plants, 24.II.1965, Shoup (1). KWM129. (ANARE) Plateau, -.XI.1972, Rounsevell 4 (1). North Arm, *Azorella*, -.XI.1972, Rounsevell 6 (2). Isthmus, coastal rock, *Colobanthus*, 20.XI.1977, Copson 1 (1). Bauer Bay beach, *Colobanthus* in coastal rock, 19.X.1978, Copson 4 (1). Isthmus, coastal rock, *Colobanthus*, 20.XI.1977, Copson 1 (3).

*Distribution.* Antarctica (type locality, Kerguelen, Macquarie I (new record as subspecies).

*Cryptopygus antarcticus* is widely distributed in Antarctica (Antarctic Peninsula, type locality) and the subantarctic islands (Wise 1967, 1970a, 1971) including Macquarie I (Wise 1967, from Shoup and Gressitt specimens). *Cryptopygus antarcticus antarcticus* was recorded by Deharveng (1981) from Antarctica and Kerguelen only but specimens from Macquarie I appear to belong to this subspecies.

*Cryptopygus caecus* Wahlgren, 1906

*Cryptopygus caecus* Wahlgren, 1906, Wise. Ergebn. Schwed. Sudpolar-Exped. (1901-1903) 5(9):12.

*Specimens examined.* MACQUARIE I. (ANARE) Hasselborough Bay, Razorback Ridge, east and west sides, soil under *Poa foliosa*, 3.II.1982, Cronin & Montgomery (2).

*Distribution.* Southern Hemisphere (see Wise 1967, 1970a, 1974; Deharveng 1981) including South Georgia (type locality), Macquarie I (new record).

Although both specimens are immature, one is subadult and agrees in details of chaetotaxy with Deharveng's (1981) description of *C. caecus*.

### ***Cryptopygus dubius* Deharveng, 1981**

*Cryptopygus dubius* Deharveng, 1981, C.N.F.R.A. 48:76 (Marion I).

*Specimens examined.* MACQUARIE I. (ANARE) Isthmus, debris under *Poa foliosa*, 17.XI.1977, Copson 3 (1).

*Distribution.* Marion I (type locality), Macquarie I (new record).

*Cryptopygus dubius* was described from Marion I but has been found to occur in Australia also (Greenslade in press). It was recorded by Womersley (1939) as *Proisotoma* (*Proisotoma*) *ripicola* Linnaneimi, 1912.

### ***Cryptopygus lawrencei* Deharveng, 1981**

*Cryptopygus lawrencei* Deharveng, 1981, C.N.F.R.A. 48:79 (Kerguelen I).

*Specimens examined.* MACQUARIE I. (ANARE) Isthmus, coastal rock with *Colobanthus muscoides* cushion, 20.XI.1977, Copson 1(2). Isthmus, coastal rock with *Colobanthus muscoides* cushion, 20.XI.1977, Copson 1(10). Isthmus, soil and mosses on rock at high tide zone, 18.IX.1977, Copson 8 (1). Isthmus, soil and mosses on rock at high tide zone, 18.IX.1977, Copson 8 (1). Isthmus, soil and mosses on rock at high tide zone, 18.IX.1977, Copson 8 (1). Isthmus, soil and mosses on rock at high tide zone, 18.IX.1977, Copson 8 (1). Isthmus, soil and mosses on rock at high tide zone, 18.IX.1977, Copson 8 (1). Isthmus, soil and mosses on rock at high tide zone, 18.IX.1977, Copson 8 (1).

*Distribution.* Kerguelen (type locality), Macquarie I (new record).

### ***Cryptopygus tricuspis* Enderlein, 1909**

*Cryptopygus tricuspis* Enderlein, 1909, Deutsche Sudpolar Exped. (1901-1903) 10(4):459 (Kerguelen I).

*Parafolsomia quadrioculata*: Wise, 1970, Pacific Ins. Monogr. 23:194 (South Georgia).

*Cryptopygus quadrioculatus*: Wise, 1974, Rec. Auckland Inst. Mus. 11:211 (South Georgia).

*Cryptopygus quadrioculatus*: Deharveng, 1981, C.N.F.R.A. 48:77 (South Georgia).

*Specimens examined.* MACQUARIE I. (BPBMED) North Head 15 m, moss, low plants, soil, 26.II.1965, Shoup (1). KWM14a. North Head 15 m, moss, low plants, soil, 26.II.1965, Shoup (1). KWM14b. North Head 15 m, moss, low plants, soil, 26.II.1965, Shoup (1). KWM14. North Head 15 m, moss, low plants, soil, 26.II.1965, Shoup (1). KWM14. Base of Mt Power 152 m, soil, 24.II.1965, Shoup (1). KWM17a. Base of Mt Power 152 m, soil, 24.II.1965, Shoup (1). KWM17b. North of Nuggets Pt, sea level, soil, 25.II.1965, Shoup (1). KWM114. Near Scoble Lake 268 m, soil, gravel, 24.II.1965, Shoup (1). KWM119. Near Scoble Lake 268 m, soil, gravel, 24.II.1965, Shoup (1). KWM119. Top of Gadget Gully 183 m, soil, stones, low plants, 24.II.1965, Shoup (1). KWM130a. Top of Gadget Gully 183 m, soil,

stones, low plants, 24.II.1965, Shoup (1). KWMI30b. (ANARE) Garden Cove, 28.XII.1981, Cronin (1). Garden Cove, 28.XII.1981, Cronin (1). Hasselborough Bay, soil under *Poa foliosa*, 20.I.1982, Cronin (4). Hasselborough Bay, soil under *Poa foliosa*, 20.I.1982, Cronin (2). Hasselborough Bay, soil under *Poa foliosa*, 20.I.1982, Cronin (6).

*Distribution.* Kerguelen (type locality), Crozet I, Marion I, Macquarie I (new record).

*Parafolsomia quadrioculata* was described by Wise (1970a) from South Georgia and later transferred to *Cryptopygus* (Wise 1974). Deharveng (1981) commented that it is close to *Cryptopygus tricuspis*. BANZARE specimens from Kerguelen, determined as *C. tricuspis* by Womersley, show no differences from the Macquarie I specimens. *Parafolsomia quadrioculata* Wise, 1970 has recently been synonymised with *Cryptopygus tricuspis* Enderlein by Greenslade (1986).

It should be noted that the combination *Cryptopygus quadrioculatus* (Wise, 1970) is a junior secondary homonym of *Cryptopygus quadrioculatus* (Rapoport, 1963), as is *C. quadrioculatus* (Martynova, 1967), but as the species is now synonymised no further action is required.

## Family ENTOMOBRYIDAE Schäffer, 1896

### Genus *Lepidobrya* Womersley, 1937

#### *Lepidobrya mawsoni* (Tillyard, 1920)

*Entomobrya mawsoni* Tillyard, 1920, Australas. Ant. Exped. 1911-14 Sci. Rep. (C)5(8): 11 (Macquarie I).

*Entomobrya mawsoni*: Tillyard, 1925, N.Z. J. Sci. Tech. 7(5): 302.

*Entomobrya mawsoni*: Tillyard, 1926, Insects Australia New Zealand, 56 (Macquarie I).

*Entomobrya mawsoni*: Enderlein, 1930, Ges. Naturf. Freund Berlin : 263 (Macquarie I).

*Lepidobrya mawsoni*: Womersley, 1937, Rep. B.A.N.Z.A.R.E. (B)4(1): 5 (Macquarie I).

*Lepidobrya mawsoni*: Salmon, 1949, Cape Exped. Ser. Bull. 4: 43 (Macquarie I).

*Lepidobrya mawsoni*: Wise, 1964, Pacific Ins. Monogr. 7: 198 (Macquarie I).

*Lepidobrya mawsoni*: Watson, 1967, ANARE Sci.Rep. (B)1(99):19 (Macquarie I).

*Lepidobrya mawsoni*: Gressitt, 1970, Pacific Ins. Monogr. 23:325 (Macquarie I).

*Specimens examined.* MACQUARIE I. (AEE) Garden Bay, common under stones in Victoria Penguin rookery, 20.VIII.1912, C24 (2). AAE 12 K42846 *Entomobrya mawsoni* det. Tillyard. Holotype and paratype. N end, 1.19.12 (sic), C25 (1). AAE 13 K42848 *Entomobrya mawsoni* det. Tillyard. (BANZARE) Buckles Bay (1). *Lepidobrya mawsoni* det. Womersley. (BPBMED) N end (NW), *Pleurophyllum debris*, 10.XII.1960, Gressitt (1). A153. N end, moss *Azorella*, 7.XII.1960, Gressitt (1). A151. NE 25 m, Gadget Gully, sweeping, 6.XII.1960, Gressitt (1). A148. *Lepidobrya mawsoni* det. Salmon. N end (NW), *Pleurophyllum debris*, 10.XII.1960, Gressitt (1). A153. *Lepidobrya mawsoni* det. Salmon. N end (NW), *Pleurophyllum debris*, 10.XII.1960, Gressitt (2). A153. 100 m N, *Stilbocarpa*, 5.XII.1960, Gressitt (2). A150. *Lepidobrya mawsoni* det. Salmon. Green Gorge, tussock, 4.XII.1960, Gressitt (1). A149. *Lepidobrya mawsoni* det. Salmon. Base 2 m tussock, roots, soil, 5.XII.1960, Gressitt (1). A152. *Lepidobrya mawsoni* det. Salmon. (ANARE) North Head, *Stilbocarpa* litter, 27.II.1961, Watson, M/61/Z/22 (1). *Lepidobrya mawsoni* det. Salmon, 6. North Head, *Stilbocarpa* litter, 27.II.1961, Watson, M/61/Z/22 (1). *Lepidobrya mawsoni* det. Salmon, 6. First Gully, *Stilbocarpa* litter, 24.II.1961, Watson, M/61/Z/20 (1).



*Lepidobrya mawsoni* det. Salmon, 6. Wireless Hill, *Stilbocarpa* litter, 5.IV.1961, Watson, M/61/Z/69 (1). *Lepidobrya mawsoni* det. Salmon, 6. Camp Hill, *Poa annua*, 4.VII.1961, Watson, M/61/Z/112 (1). *Lepidobrya mawsoni* det. Salmon, 6. Lambing Gully, *Stilbocarpa* leaves, 30.IX.1961, Watson, M/61/Z/189 (1). *Lepidobrya mawsoni* det. Salmon, 6. Nuggets Point, *Stilbocarpa* litter, 13.X.1961, Watson, M/61/Z/199 (1). *Lepidobrya mawsoni* det. Salmon, 6. Isthmus, coastal rocks, 19.IV.1961, Watson, M/61/Z/74 (1). *Lepidobrya mawsoni* det. Salmon, 6. Gadget Gully, *Stilbocarpa* litter, 7.III.1961, Watson, M/61/Z/41 (1). *Lepidobrya mawsoni* det. Salmon. Nuggets Point, *Stilbocarpa* litter, 15.IX.1961, Watson, M/61/Z/175 (1). *Lepidobrya mawsoni* det. Salmon. Camp Hill, *Poa annua* and *foliosa*, 13.VII.1961, Watson, M/61/Z/120 (1). *Lepidobrya mawsoni* det. Salmon. North Arm, *Sphagnum*, -.XI.1972, Rounsevell 1 (1). North Arm, *Stilbocarpa*, -.XI.1972, Rounsevell 7 (10). Isthmus, litter nr. Biology lab. 11.III.1975, Rounsevell (2). Isthmus, *Poa* debris, 17.XI.1977, Copson 2 (1).

*Distribution.* Macquarie I (type locality), Campbell I.

Tillyard (1920) mentioned a third specimen of this species on slide AAE 13 together with specimens of *Arrhopalites davidi*, and it is presumed here that the former was taken at the same time and place as the latter.

The one Campbell I specimen has been re-examined and is apparently of this species. It may have been introduced or of introduced stock.

### Genus *Lepidocyrtus* Bourlet, 1839

#### *Lepidocyrtus cyaneus cinereus* Folsom, 1924

*Lepidocyrtus cyaneus* var. *cinereus* Folsom, 1924, Amer. Mus. Novit. 108:9.

*Lepidocyrtus cyaneus cinereus*: Watson, 1967, ANARE Sci. Rep. (B)1(99): 19 (Macquarie I).

*Lepidocyrtus cyaneus cinereus*: Gressitt, 1970, Pacific Ins. Monogr. 23: 325 (Macquarie I).

*Specimens examined.* MACQUARIE I. (ANARE) Nuggets Point, *Stilbocarpa* litter, 26.XI.1961, Watson, M/61/Z/221 (1). *Lepidocyrtus cyaneus cyaneus* det. Salmon, 6. Nuggets Point, *Stilbocarpa* litter, 2.III.1961, Watson, M/61/Z/27 (1). *Lepidocyrtus cyaneus* det. Salmon, 18. Nuggets Point, *Stilbocarpa* litter, 15.IX.1961, Watson, M/16/Z/175 (1). *Lepidocyrtus cyaneus cinereus* det. Salmon, 6. Nuggets Point, *Stilbocarpa* litter, 13.X.1961, Watson, M/61/Z/199 (1). *Lepidocyrtus cyaneus cyaneus* det. Salmon, 6.

*Distribution.* North America (see Salmon 1964a), New Zealand, Campbell I, Macquarie I.

This species was recorded by Wise (1964) from Campbell I, and by Watson (1967) from Macquarie I for these same four specimens determined by Salmon.

The determinations of *Lepidocyrtus cyaneus cyaneus* on two of Salmon's slides are considered to be a *lapsus* for *L. cyaneus cinereus* as Watson's specimens identified by Salmon were recorded under the latter name. However, further examination suggests that the Macquarie I specimens may not be *L. cyaneus* but fresh specimens are required for a definite specific identification.

Genus **Lepidosira** Schött, 1925**Lepidosira terraereginae** (Ellis & Bellinger, 1973)

*Lepidocyrtus terraereginae* Ellis & Bellinger, 1973, Monogr. Ned. Ent. Ver. No.7:28 [nom. nov. for *Lepidocyrtus* (*Lepidocyrtoides*) *coeruleus* Schött, 1917].

*Lepidocyrtus* (*Lepidocyrtoides*) *coeruleus* Schött, 1917, Ark. Zool. 11(8):45.

[*Lepidosira terraereginae*] Ellis & Bellinger, 1973, Monogr. Ned. Ent. Ver. No.7:28.

*Specimens examined.* MACQUARIE I. (BPBMED) Mud, gravel, -II.1965, Shoup (1). KWM124. *Lepidosira caerulea* det. Salmon. Mud, gravel, -II.1965, Shoup (1). KWM124. *Lepidosira caerulea* det. Salmon. Mud, gravel, -II.1965, Shoup (1). KWM124. *Lepidosira caerulea* det. Salmon.

*Distribution.* Australia (Queensland, type locality), New Zealand, Macquarie I (new record).

This species has mostly been known as *Lepidosira coerulea* (Schött, 1917) (see Salmon 1964a) and is recorded here only for the three specimens determined by Salmon.

## Family SMINTHURIDAE Lubbock, 1862

Genus **Polykatianna** Salmon, 1946**Polykatianna davidi** (Tillyard, 1920)

*Arrhopalites davidi* Tillyard, 1920, Australas. Ant. Exped. Sci. Rep. (C)5(8): 14-16 (Macquarie I).

*Arrhopalites davidi*: Tillyard, 1925, N.Z. J. Sci. Tech. 7(5):302-303 (Macquarie I).

*Arrhopalites davidi*: Tillyard, 1926, Insects Australia New Zealand, 56 (Macquarie I).

*Arrhopalites davidi*: Enderlein, 1930, Ges. Naturf. Freund Berlin: 263 (Macquarie I).

*Parakatianna davidi*: Womersley, 1937, Rep. B.A.N.Z.A.R.E. (B)4(1): 6 (Macquarie I).

*Polykatianna davidi*: Salmon, 1949, Cape Exped. Ser. Bull. 4: 54 (Macquarie I).

*Metakatianna gressitti*: Watson, 1967, ANARE Sci. Rep. (B)1(99): 20 (Macquarie I).

*Polykatianna davidi*: Gressitt, 1970, Pacific Ins. Monogr. 23: 325 (Macquarie I).

*Specimens examined.* MACQUARIE I. (AAE) N end. Jumping arthropods. Common under stones, in crevices of rock, and under moss. Have tremendous powers of jumping when touched. 1.19.12 (*sic*), C25 (5). AAE13 K42848 *Arrhopalites davidi* det. Tillyard. Holotype and 4 paratypes. [No data] (1). *Arrhopalites davidi* det. Tillyard. Paratype. (BANZARE) BANZ 1930, *Metakatianna davidi* det. Womersley. Station 81, 2.XII.1930, Coll.1669 (6). *Metakatianna davidi* det. Womersley. Station 81, 2.XII.1930, Coll.1669 (4). *Metakatianna davidi* det. Womersley. 1930 (1). *Metakatianna davidi* det. Womersley. (ANARE) Gadget Gully, 5.XII.1960, Calaby, M/60/In/11a (1). Lambing Gully, *Stilbocarpa* leaves, 30.XI.1961, Watson, M/61/Z/189 (1). *Metakatianna gressitti* det. Salmon, 10. Lambing Gully, *Stilbocarpa* leaves, 30.IX.1961, Watson, M/61/Z/189 (1). *Metakatianna gressitti* det. Salmon, 10. Lambing Gully, *Stilbocarpa* leaves, 17.VIII.1961, Watson, M/61/Z/151 (1). *Metakatianna gressitti* det. Salmon, 10. Lambing Gully, *Stilbocarpa* leaves, 20.VI.1961, Watson, M/61/Z/102 (1). *Metakatianna gressitti* det. Salmon, 10. Aerial Cove, *Montia fontana*, 29.III.1961, Watson, M/61/Z/65 (1). *Metakatianna gressitti* det. Salmon, 10. Aerial Cove, *Montia fontana*, 29.III.1961, Watson, M/61/Z/65 (1). *Metakatianna gressitti* det. Salmon, 10. North Head, *Poa hamiltoni*, 3.III.1961, Watson, M/61/Z/33 (1). *Metakatianna*

*gressitti* det. Salmon, 10. First Gully, *Stilbocarpa* plants, 24.II.1961, Watson, M/61/Z/17 (1). *Metakatianna gressitti* det. Salmon. Lambing Gully, *Stilbocarpa* leaves, 17.VIII.1961, Watson, M/61/Z/151 (1). *Metakatianna gressitti* det. Salmon. Isthmus, on top of old seal wallow, 14.I.1962, Hughes (1). A237. Isthmus, on top of old seal wallow, 14.I.1962, Hughes (1). A237. Isthmus, on top of old seal wallow, 14.I.1962, Hughes (1). A237. Isthmus, on top of water in seal wallow, 18.III.1962, Hughes (1). A235. North Head, on Macquarie Island Cabbage, 10.III.1962, Hughes (1). A239. North Head, on Macquarie Island Cabbage, 10.III.1962, Hughes (1). A239. Bauer Bay, nearly dry wallow, 23.III.1962, Vestjens, M/62/1M/149 (1). Bauer Bay, between *Stilbocarpa polaris*, 13.IV.1962, Vestjens (1). Bauer Bay, tussock grass, 5.X.1962, Vestjens, M/62/In/162 (2). (BPBMED) Mud, gravel, -.II.1965, Shoup (1). KWM125. *Metakatianna* det. Salmon. North of Nuggets Pt, sea level, soil, 25.II.1965, Shoup (1). KWM115. *Metakatianna* det. Salmon. North of Nuggets Pt, sea level, soil, 25.II.1965, Shoup (1). KWM115. *Metakatianna* det. Salmon.

*Distribution.* Macquarie I (type locality).

The specimens collected by Watson were recorded by him (1967) as *Metakatianna gressitti* Salmon following determination by Salmon. That species is now placed in the genus *Polykatianna* (see below) and the Watson specimens appear to belong in the same genus. However, they differ from *P. gressitti* in the following characters: Vertex setae longer, antenna IV appears annulated, antenna longer in relation to head, body setae longer relative to breadth, no teeth or tunica on claw, empodial lamella broader, claw longer and thinner (?), anterior dental chaetotaxy 11124 (i.e. 9 not 10 setae), and mucro longer and thinner. These specimens, collected by Watson, appear to be mostly females and to belong to the same species but the preparations are not clear and the appendages have shrivelled so that morphological details are hard to distinguish. The colour pattern is dark purplish mottling on abdomen and thorax, a rectangular pigment patch on vertex and another between and below the ocelli, and all appendages plus abd. V and VI are more lightly and smoothly pigmented. This is similar to the coloration of *P. davidi* as recorded by Tillyard (1920) "deep purplish black above" and distinct from that of *P. gressitti* recorded by Salmon (1964) "pale ochreous with violet shading". The Watson specimens are consequently tentatively included here.

***Polykatianna gressitti*** (Salmon, 1964) comb. nov.

*Metakatianna gressitti* Salmon, 1964, Pacific Ins. 6 (2): 317 (Macquarie I).

*Metakatianna gressitti*: Gressitt, 1970, Pacific Is. Monogr. 23: 235 (Macquarie I).

Additions to description of Type specimen.

Male. *Size*, 1.224 mm. *Colour*. Completely bleached. *Head*. Antennal segment ratio 6:10:16:43. Vertex setae short, curved, strong. *Body*. Covered with short, strong, curved setae. Trichobothria ABC present,  $\angle ABC = 140^\circ$ , AB:BC = 1:2.8. *Legs*. Trochanteral organ present legs III:II, coxal organ present leg III. Three clavate tenent hairs to each leg. Claw with teeth and tunica as described by Salmon.



*Furca*. Chaetotaxy formula as below:

anterior	1	1	1	1	2	4	10
internal						1	1
dorsal	1	2	1		1	1	7
external	1	1	1	1	1	1	6
							<hr/> 24 <hr/>

Mucro with broad slightly indented lamellae.

*Abdominal segment V*. Male with 19 + 18 setae at opening.

*Specimens examined*. MACQUARIE I. (BPBMED) Base 2 m, tussock, roots, soil, 5.XIII.1960, Gressitt (1). A140. *Metakatianna gressitti* det. Salmon. Holotype.

*Distribution*. Macquarie I (type locality).

Salmon's (1964b) description of *Metakatianna gressitti* appears essentially correct. The body trichobothria are small and difficult to see which accounts for Salmon initially placing the species in *Metakatianna*. The size is over twice what he records, and there are three extra setae on antenna III and two on the ocelli patch compared with his figures 16 and 21. His description was based on a single specimen collected by Gressitt. At present the species is placed in *Polykatianna* until a definitive diagnosis of the genus can be made following further collections from the type locality.

#### Genus *Sminthurinus* Börner, 1901

##### *Sminthurinus kerguelensis* Salmon, 1964

*Sminthurinus kerguelensis* Salmon, 1964, Pacific Ins. 6(2): 314 (Kerguelen, Macquarie).

*Sminthurinus kerguelensis*: Gressitt, 1970 Pacific Ins. Monogr. 23: 325 (Macquarie I).

*Specimens examined*. MACQUARIE I. (BPBMED) N end (NW), *Pleurophyllum* debris, 10.XII.1960, Gressitt (1). A139. *Sminthurinus kerguelensis* det. Salmon. Top of Gadget Gully 183 m, soil, stones, low plants, 24.II.1965 Shoup (1). KWMI32.

*Distribution*. Kerguelen (type locality), Macquarie I.

The holotype, allotype and other Kerguelen specimens in the BANZARE collection have been re-examined. In the original description Salmon (1964b) recorded one specimen from Macquarie I. This slide mounted specimen, collected by Gressitt (A139), has been examined and another similar specimen, also labelled A139, has been found in alcohol.

#### Genus *Katianna* Börner, 1906

##### *Katianna banzareï* Salmon, 1964

*Katianna banzareï* Salmon, 1964, Pacific Ins. 6(2): 314 (Macquarie I).

*Katianna banzareï*: Watson, 1967, ANARE Sci. Rep. (B) 1 (99): 19 (Macquarie I).

*Katianna banzareï*: Gressitt, 1970, Pacific Ins. Monogr. 23: 325 (Macquarie I).

*Specimens examined.* MACQUARIE I. (BANZARE) Station 81, swampy land near Buckles Bay, 3.XII.1930, Res. 234-d (1). *Katianna banzareii* det. Salmon. Holotype. Station 81, swampy land near Buckles Bay, 3.XII.1930, Res. 234-d (1). *Katianna banzareii* det. Salmon. Paratype. (ANARE) Green Gorge, 4.XII.1960, Calaby, M/60/In/9A (1). Gadget Gully, 5.XII.1960, Calaby, M/60/In/11a (1). Lambing Gully, *Stilbocarpa* leaves, 1.XII.1961, Watson, M/61/Z/231 (1). *Katianna banzareii* det. Salmon, 3. Wireless Hill, sheep dung, 29.XI.1961, Watson, M/61/Z/468 (1). *Katianna banzareii* det. Salmon, 3. Wireless Hill, sheep dung, 29.XI.1961, Watson, M/61/2/468 (1). *Katianna banzareii* det. Salmon, 3. Lambing Gully, *Stilbocarpa* leaves, 17.VIII.1961, Watson, M/61/Z/151 (1). *Katianna banzareii* det. Salmon, 3. Lambing Gully, *Stilbocarpa* leaves, 20.VI.1961, Watson, M/61/Z/102 (1). *Katianna banzareii* det. Salmon, 3. Nuggets Point, *Stilbocarpa* litter, 2.III.1961, Watson, M/61/Z/27 (1). *Katianna banzareii* det. Salmon, 3. First Gully, *Stilbocarpa* plants, 24.II.1961, Watson, M/61/Z/17 (1). *Katianna banzareii* det. Salmon, 3. Lambing Gully, *Stilbocarpa* leaves, 30.IX.1961, Watson, M/61/Z/189 (1). *Katianna banzareii* det. Salmon, 3. North Head, on Macquarie Island Cabbage, 10.III.1962 Hughes (1). A240. North Head on *Stilbocarpa polaris*, 12.VI.1962, Vestjens, M/62/IM/153 (1). Bauer Bay, tussock grass, 5.X.1962, Vestjens, M/62/In/162 (2). North Arm, *Azorella*, -.XI.1972, Rounsevell 6 (1). North Arm, *Stilbocarpa*, -.XI.1972, Rounsevell 7 (3). Isthmus, litter from near biology hut, 11.III.1975, Rounsevell (1). Hasselborough Bay, Razorback Ridge, east and west sides, soil under *Poa foliosa*, 3.II.1982, Cronin & Montgomery (1). Hasselborough Bay, Razorback Ridge, east and west sides, soil under *Poa foliosa*, 3.II.1982, Cronin & Montgomery (1).

Distribution. Macquarie I (type locality).

Family NEELIDAE Folsom, 1896

Genus **Megalothorax** Willem, 1900

**Megalothorax** sp.

*Specimens examined.* MACQUARIE I. (ANARE) North Arm, *Sphagnum*, -.XI.1972, Rounsevell 1 (2). North Arm, *Sphagnum*, -.XI.1972, Rounsevell 1 (2). North Arm, *Sphagnum*, -.XI.1972, Rounsevell 1 (2). North Arm, *Stilbocarpa*, -.XI.1972, Rounsevell 7 (2).

*Distribution.* Macquarie I.

The few specimens available are not identified as the genus is poorly known.

#### SUMMARY

In recent years there have been many taxonomic changes in nomenclature for the Southern Hemisphere Collembola particularly since Deharveng (1981). Several species are listed here under different names following synonymic and combination changes.

Of the 23 species now recognised for Macquarie I (including Bishop I), 15 species have been recorded under various names prior to the present study.

Ten species are as previously recognised: *Hypogastrura* (*Hypogastrura*) *purpurescens*, *Hypogastrura* (*Hypogastrura*) *viatica*, *Tullbergia bisetosa*, *Cryptopygus antarcticus antarcticus*, *Lepidobrya mawsoni*, *Lepidocyrtus cyaneus cinereus*, *Polykatianna davidi*, *Polykatianna gressitti* (new combination), *Sminthurinus kerguelensis*, *Katianna banzareii*.

Name changes arising from recognition of several previously misidentified species in the Macquarie I Collembola provide 5 new species records. In the Family Neanuridae the species recorded as *Subantarctica* sp. is *Friesia tilbrooki* of South Georgia (recorded by Greenslade 1986). In the Onychiuridae some specimens from Macquarie I recorded as *Tullbergia mixta* and some from Bishop I recorded as *Tullbergia mediantarctica* are *Tullbergia templei* of Heard I (recorded by Greenslade 1986). The species recorded in the Isotomidae as *Isotoma octooculata* is *Isotoma* (*Parisotoma*) *insularis* of Crozet I, *Sorensia subflava* is *Isotoma* (*Sorensia*) *punctata* of Tierra del Fuego and subantarctic islands, *Isotoma klovstadi* is the cosmopolitan *Isotoma* (*Desoria*) *tigrina*.

Specimens of 8 species have been found in Macquarie I collections for the first time during the present studies. These are *Hypogastrura* (*Ceratophysella*) *denticulata* (recorded by Greenslade & Wise 1984), *Isotoma* (*Pseudosorensia*) *atlantica*, *Cryptopygus dubius*, *Cryptopygus caecus*, *Cryptopygus lawrencei*, *Cryptopygus tricuspsis*, *Lepidosira terraereginae* and *Megalothorax* sp.

Macquarie I is the type locality for four of the species, *Lepidobrya mawsoni*, *Polykatianna davidi*, *Polykatianna gressitti* and *Katianna banzareii*, all of which are endemic to the island (except for one specimen of *L. mawsoni* recorded elsewhere). No new species are described although additions to descriptions are given for some species.

While the number of species for Macquarie I has been increased substantially and several species have been properly determined, some are only represented by few or poorly preserved specimens. Fresh specimens of those species are required to complete the identification of all Collembola species present on the island.

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